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Computer Weekly
Thursday, September 16, 1982

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Think tank to organise French DP

by Jack Gee

FRENCH officials and business leaders have set up a think tank to organise the future of the national data processing industry in the framework of the FFr140 billion (£11 billion) five-year electronics and computer plan.

Government experts propose to establish close links between CII-Honeywell Bull, Thomson-CSF's subsidiary SEMS and peripherals maker Logabax. But they admit they have not yet found a way to harmonise the activities of this powerful triumvirate with smaller but active private firms such as Intertechnique and SFENA-DSI.

However, co-ordination is particularly urgent in order to meet US competition at a time when CII-HB has just reported losses of FFr500 million (£40 million) and Digital Equipment has increased its turnover by 57%.

Government and industry have not yet taken a decision on a project to produce an all-French large mainframe, pending talks with other European manufacturers. Jean-Pierre Chevènement, Minister for Industry and Technology, favours an alliance with France's industrialised neighbours for this purpose.

Chevènement's ministry has published proposals to consolidate CII-HB's position in the European market in medium-sized management systems based on its DSA network architecture.

The Industry and Technology Ministry is urging that duplication in expenditure on research and development and in industrial and marketing investment must be avoided.

The government is making FFr600 million (£48 million) available to develop basic computer components – Chevènement calls them "building blocks" – for use by a wide range of manufacturers.

Chevènement's office says that the emphasis must be placed on mass-production of microcomputers without sacrificing individual initiative in innovation.

COGGAN . . . *Confirmed he had received a writ.*

'Dismissal was fair'

by Robert Parry

SACKED shift leader Ralph Ackad has lost his unfair dismissal claim against former employer Glaxo Operations UK. He was fired last March for allegedly exceeding his authority as a shift leader when he used a command to disable a terminal after six invalid password warnings appeared one after the other.

He took Glaxo to an industrial tribunal in July, but after the two days set aside for the hearing, Glaxo's counsel was only halfway through the evidence of its second witness, so the hearing was adjourned until early this month.

Now, after a further three days, the tribunal has ruled that Ackad was fairly dismissed.

Ackad called an expert witness, Glaxo project manager Peter Byers, to give evidence. He said that Ackad's use of the command had not caused any damage to the system, but added that he would not have expected it to be used in the computer room. Site procedures, written by Ackad, restricted use of the command to authorised personnel.

Glaxo challenged the expertise of the witness in this matter, saying he did not actually use the command, and questioned the way Ackad approached the case. It was felt he should have gone through internal grievance procedures first.

Ackad, who worked with the HP 3000 machines at Glaxo's Greenford site for five years, feels he lost the case because he did not fit in. "I did the job well," he says, "but didn't fit the frame they wanted me to at Glaxo. I wasn't a yes man."

Former investors in Gamma go to court

by Kevin Cahill

THE ghost of failed Nottingham-based system builder Gamma Computer Group has risen again as several former investors go to court alleging negligent misrepresentation in documents used to obtain loans and equity. Gamma failed in February, 1980.

Not long before the company went into liquidation, there was a private financing totalling £400,000 for Gamma by a number of city institutions including Sun Life Assurance.

The financing was not carried out in the conventional manner – through a stockbroker and accompanied by a prospectus.

Instead, Gamma directors produced a set of documents which showed the company strapped for cash but with good prospects. The documents and accompanying letters were handled by MJH Nightingale, a dealer in stocks and shares. But the Nightingale executives say that they did not certify the documents.

Within weeks of the financing Gamma went down. A receiver from accountants Ernst & Whinney moved in and the assets of the company were disposed of.

In the intervening eighteen months, extensive negotiations have taken place in an attempt to resolve liability and to get some of the original money back.

The fact that the investors have gone to court implies that those negotiations have now broken down.

The writ, which was issued on August 17, seeks to recover the monies invested by Sun Life and others on the grounds that four directors, including managing director George Coggan, acted negligently in the information they gave to the investors. Coggan confirmed that he had received the writ.

Hamilton Rentals sacks 25

by John Kavanagh

A FIFTH of the staff at one of the UK's leading computer equipment rentals firms have lost their jobs. Hamilton Rentals has shed 25 of its 130 staff because an expected upturn in the national economy failed to happen.

But the company insists that it is still healthy and expanding its product range, with offerings for the electronic office coming soon.

"About 18 months ago we geared up for business growth, but now it's a case of cutting operating costs in line with the state of the economy," said commercial manager Harry Scott. "And we can see no signs of an upturn now for at least six or nine months.

"However, we are still selling and renting more units than last year. But our income is about the same because our rental rates have fallen with national interest rates. Turnover is about £8 million and we have a healthy profit."

Scott said about six jobs had gone through natural wastage. Some had been lost because two Scottish offices had been merged into a new Aberdeen office, reducing the need for administrative staff.

European satellites splash down

EUROPEAN space hopes splashed into the Atlantic last week with the Ariane rocket, primarily developed by the French space agency, CNES.

Ariane was carrying two maritime communications satellites, the British Marecs B and Italian Sirio-2, which were to be placed in orbit 2,300 miles above the earth, but both were destroyed when the $1 billion rocket crashed.

Life after micros

THE British Computer Society has organised a lecture on the subject of life after the microcomputer as part of its Silver Jubilee celebrations next year. The lecture will be given in London next March by Louis Robinson, director of University Relations for IBM and will be sponsored by Computer Weekly.

Booming Future

BOOMING Scottish computer Future Technology Systems (FTS) has taken the first major step towards fulfilling its goal of becoming the DEC of the electronic office with a £3 million order for its 16-bit microcomputer systems. The order comes from UK distributor OBM.

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A winter of discontent

THE decision by the DVLC to switch to optical character reading equipment for input is likely to make this coming winter of union discontent even more bitter. Many of the staff at the centre are employed in the huge key-to-disc Keycheck system. They are likely to find that not so many of them are needed if the two shortlisted companies deliver the multi-fount hand reading machines which will be needed.

MICROCOMPUTER system software star ***Digital Research*** *is fighting back in the micro operating system battle. A go-faster version of its de facto eight-bit standard operating system CP/M is about to hit the streets, and it is making a strong play in the IBM Personal Computer stakes with an implementation of Concurrent CP/M-86. The new CP/M version, CP/M-3, will be released "very soon", and is already with selected customers in pre-release.*

FUJITSU has developed a hybrid laser printer from an IBM 3800 laser printer and the **Siemens** product marketed by ICL as the LPS14. It is about to burst on to the UK market, and considering the Japanese firm's close associations with our own ICL, it may end up carrying an ICL label. But the persons who should be in the know concerning such matters at ICL expressed surprise at such an idea: "The Siemens marketing agreement has only just been renewed," said one expert.

STORAGE TECHNOLOGY*, which earlier this year sued Ibis Systems for misappropriation of trade secrets, is now reportedly going to buy thin film technology from the same company.*

Third party software for DEC Professional

by Robert Parry

KNIGHTSBRIDGE software specialist Filetab Support Services has become the first in the UK to get third party software running on DEC's Professional series of personal computers. The Filetab software was shown at the recent Decus, DEC user group conference and at last week's Personal Computer World show, tempting users to the as yet unavailable personal machines.

It is a double first for Filetab, as up till now its RPL and RQL software has been restricted to DEC PDP-11 and VAX-11 minis. The move to the Professional series marks its first move to microcomputers.

Filetab managing director Ritchie McGladdery was surprised at the ease of transferring the software between the DEC minis and micro. "The programming language compiler and the query language compiler are fairly substantial bits of software," he says, "but we completed the transfer in only two days."

He reckons this promises well for the machines, which should be generally available towards the end of the year, according to DEC.

Like many others – as was noticeable from the myriad of companies with that other elusive mainframer's micro, the IBM Personal Computer, on their stands at the PCW show – McGladdery is tempted to get the Filetab software on to the IBM machine. But there is a question of priorities, and the DEC range of machines comes first, he says.

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Two Midas sales top $1m

QUEEN'S Award winning BIS Software has sealed contracts worth over $1 million for its Midas banking and communications systems. One, with Banque Française du Commerce Extérieur, is its largest single site contract ever, at $591,000. The other is with Bank of New South Wales for Midas installations in New York, Chicago and San Francisco offices.

MSA/Univac deal

THE big IBM applications software firm MSA has jumped into the Sperry Univac market with an agreement under which the two companies will develop and sell MSA's financial and payroll packages on Univac 1100 mainframes worldwide.

Plessey trade

PLESSEY has signed a £50-million, five-year trading deal with Telephone Rentals. The deal allows Telephone Rentals to sell new Plessey equipment such as the Ibis business communications system. It will also get the PDX private telephone exchange, said to have 40% of the UK market.

IBM signs up TI

IBM has signed up Texas Instruments to develop chips to handle the linking of computer equipment to a local area network. IBM has gone for a baseband one local net scheme, using a token passing ring approach. The work with TI will be in line with this, IBM says.

Dealer for 16-bit

BRISTOL software house TDI has been appointed UK distributor for a 68000-based machine, the Sage II from US company Sage Computer Technology. Sage claims the machine runs at four times the speed of popular 16-bitters from IBM and Sirius, and 14 times that of the 8-bit Apple II.

600-job creation

MOTOROLA is creating 600 jobs in the UK by building a £10 million mobile radio communications plant in Basingstoke, Hampshire. The factory will also take in the 400 people at an existing plant, which will be closed.

Altos UK foothold

US microcomputer manufacturer Altos Computer Systems has set up a UK subsidiary in Ascot, Berkshire. The company is claiming UK sales of over £4 million this year, compared with around £1.75 million in 1981. UK sales are handled by two main distributors, Microtex of Eton and Logitek in Manchester. Altos has four UK staff.

WILMOT . . . *Government spending millions on awareness, but what we need are computer graduates.*

Wilmot slates IT policies of govt

A stronger ICL is poised to raise £100m on rights issue

by Kevin Cahill

IN an uncharacteristic outburst Robb Wilmot, the managing director of ICL, has slated the government over its policy on information technology.

Speaking to a meeting of the British Computer Society last week, he said that the drop in enrolment on computer science courses was a disgrace.

"The government is spending millions on awareness, but what we need are more qualified graduates in computer science, particularly in commercial data processing. Less than 10% of those who qualify in computer science do so in commercial data processing."

At the same meeting Wilmot claimed that the company will meet its forecasts and its targets for the current year. That has brought speculation that ICL is soon to launch a rights issue estimated at £100 million.

Opinion in the City is that ICL has made such a good recovery that a rights issue of this size would be a sign of strength rather than weakness. One closely placed analyst said that if ICL went for less he would be surprised and disappointed: "It's just what the company needs to get it on the road and into the world league of computer companies, alongside DEC and IBM."

In Wilmot's speech before the BCS he described the delay in the creation of what he called the "information engineering profession" akin to the delay in recogninsing production processing, which, Wilmot said, he felt "had cost the UK engineering industry so much of its strength in the past decade."

He clearly implied that if the government did not get its act together the data processing industry, under the pressure of American and Japanese competition would go the same way as the engineering business in the West Midlands.

"We see a lot of government tenders grappling with the problems of the past but the central tenders don't seem to comprehend the current technology, or even recent technology," he noted. More specifically he said: "In the tendering we see no specifications for voice or image processing or any specification for international standards."

But whatever the government's problems, which Wilmot said only involved 7% of the company's sales nowadays, ICL was going forward with a vengeance.

This will be more than welcome news to many City investors and analysts, who have never been able to really understand what went wrong with ICL under one of their own men, Philip Chappell, or why the Wilmot formula is making the company go right.

If a £100 million rights issue does go ahead, ICL would be asking its current shareholders to cough up, as of right, about £1 for every 25p share they hold.

The current market price of the ICL share is 60p to 65p, which means that ICL shareholders will have to pay 35p over the odds for their new shares, as compared with the 15p over the odds that the market offered for the last 25p rights issue.

The consensus of opinion is that ICL has made such a good recovery that a demand of this size, far from a mark of weakness, is a sign of strength.

Another piece of news which is bound to bring joy to the hearts of ICL's long-suffering shareholders is the fact that the company is expecting another major order in New York. Wilmot said that he expects one more prime order in the United States "soon".

After making this comment he went on to cite the success of a number of UK police forces in recent murder hunts using CAFS. This seems to imply that he expects the next order to be for a CAFS system attached to the 2900 computer range from a New York police department.

'DP users cable TV's mainstay'

by Donald Kennett

MOST OF the profits made by cable television operators will come from data processing and not from entertainment users, according to the Institute of Information Scientists.

The institute gave this view in its evidence to the Hunt Committee on cable television, which is reporting to the government this month about issues such as how to allocate licences, to what extent monopolies should be allowed and what technical standards are necessary.

Information technology minister Kenneth Baker has said repeatedly that he believes the greatest long-term opportunities from the cable network will be for interactive computer-based services.

The institute goes further by suggesting that these services will predominate from the start.

It cites Prestel as a case where the business market has proved more significant than the domestic, despite original expectations, and claims that its view is corroborated by reports from the BBC and the Centre for Policy Studies.

The institute's evidence to Hunt has four other conclusions: privacy legislation should be enacted to prevent the abuse of information about subscribers' purchasing decisions, financial transactions or viewing habits; the government should unify the responsibilities for information, technology and services that currently fall under the Department of Industry, the Home Office, and other departments; optical fibre cables should be used throughout the network to give the maximum opportunity for future growth; and the urgency of the project is not as great as the government believes.

STERN . . . *rejects IBM.*

CII-HB says no to IBM

by Jack Gee

JACQUES STERN, chairman of CII-Honeywell Bull, said in Paris that his company, which came under State control in the spring, has firmly rejected compatibility with IBM and is fighting for a heterogeneous system of standards.

Addressing a Press conference this week on the eve of Sicob, France's premier industry show, Stern said "IBM want to bind customers to themselves. We are offering an alternative in campaigning for network standards which will give our customers as wide a choice of equipment as possible."

Stern said that ICL had told him its management strongly supported this viewpoint during recent talks.

The CII-Honeywell Bull chairman said: "We are moving out of a product marker into one design for the end users who want complete systems in an increasingly distributed environment."

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Services bigger than govt thought

by Boris Sednacca

THE UK computer services industry is doing much better than the government thinks.

For according to the latest survey by the Computing Services Association, its members alone are turning over £750 million a year, well above the latest government figures.

The total revenue for the 99 companies which responded to the survey was over £450 million. The CSA then calculated that revenues for all 184 members would be in excess of £750 million – "well above the figures normally quoted for the services sector," it added, referring to government statistics published in the SDQ9 report which put industry revenues at a more conservative figure of £612 million.

"I don't want to knock SDQ9 but their figures are based on a smaller number of companies, somewhere between 135 and 140, and they have included companies which we would not include – hardware manufacturers for example," added John Marshall, consultant to the CSA responsible for the survey.

Marketing was cited as an important factor affecting respondents' business opportunities and performance.

The bureau market is still the largest revenue earning activity within the industry, or £153 out of £450 million total.

The figures also show a decline in the straight computer processing operations, according to Doug Eyeions, director-general of the CSA. "Bureaux are less buoyant than the industry as a whole," he said.

John Marshall said that bureaux are striking out into other areas in order to survive. The bureau sector of the CSA was the only one which viewed the future pessimistically.

In response to the question: "How do you view the business outlook for your company in the current year compared to last year?" only 37% said better, while 30% said worse and 33% saw no change.

"The 37% who said things were better are optimistic because they are the ones who are diversifying," Marshall explained. "Bureaux are not going to disappear, though."

But staff recruitment in the industry was at a standstill. The level of staff growth within the companies which returned completed questionnaires from a total membership of 184, was 1.5%.

EYBIONS . . . "Bureaux are less buoyant than the industry as a whole."

"The small companies recorded an 11% staff growth rate for 1981 although the number of people involved is likely to be insignificant in terms of overall industry staff development," says the survey.

"Based on the result of the survey, the revenue per head for all of the CSA membership is £26,700. This compares favourably with the figure given in the government's SDQ9 report for the fourth quarter in 1981 of £23,750."

Geisco to buy $10m of PCs

by Howard Karten

ONE of the largest service bureaux in the world has become the biggest customer for IBM's Personal Computer, but users of the bureau outside the US will have to wait until IBM makes the PC available worldwide.

Geisco, General Electric Information Services Company, has ordered $10 million worth of PCs which retail at up to $6,500 in the US. However, a UK spokesman for Geisco said the deal was meant for the US at the moment, but the company had no plans to start supporting PCs in advance of the official worldwide launch.

The spokesman said that Geisco expects to start offering the service late this year or early next year.

In the US the machine will be used as an interface device by Geisco's worldwide teleprocessing network, with the added advantage of 16-bit micro power at the local site. Geisco will provide hardware support. In the US. The UK spokesman said this arrangement might change when Geisco brings the machine to this country.

The company will not supply PCs for standalone use, but only as an interface device for its telecommunications network. The Geisco network is probably the biggest of its kind in the world: it can be accessed from 750 cities, and there are three computer centres, one in Holland and two in the US housing 44 mainframes.

Trade Centre

A NEUTRAL meeting ground for the computer industry has been set up in Eindhoven in the Netherlands in the form of a World Trade Centre. It is getting a £150,000-a-year subsidy from Eindhoven municipal authorities.

IBM's voice message add-on reaches Europe

by Donald Kennett

THE recorded voice message system that IBM launched last year in the US is now being marketed in Europe as an add-on for its 3750 and 1750 computer-controlled private telephone exchanges.

Once again, the involvement of the giant in an area that many are sceptical about is likely to make people look at it more closely, while the price range of £92,000 to £200,000 should give competitors plenty of room to manoeuvre.

The system, called the Audio Distribution System and based on the IBM Series I mini, is sold in the US for use with other companies' PABXs because IBM does not sell its own PABXs there.

But in Europe it will only be sold for attachment to an IBM 3750 or 1750. Because there is so little multifrequency signalling (as used in pushbutton dialling) in European public telephone networks, the system will also be limited to communications between telephones attached to a single exchange or network of exchanges. The system has over 40 commands for sending, editing and accessing.

Big French plans for office market

by Jack Gee

FRENCH manufacturers have announced ambitious plans in office automation equipment, with an alliance between Jeumont-Schneider and an American partner, and a claim by CIT-Alcatel that it is France's best hope for developing this industry.

Christian Devin, chairman of Jeumont-Schneider, said the French government has approved the purchase of a stake in Microfive, the Californian firm which specialises in microcomputer design and manufacture.

Jeumont-Schneider, which has conquered the leading position in private telephone switching systems in France, plans to build up integrated office systems around its PABX activities.

Devin said that his company will start off with an investment of FFr100 million (£8 million) over the next three years and boost turnover from zero to FFr one billion (£80 million).

Jeumont will exercise control over a new research and design firm to be set up with Microfive in the US to create new equipment and software.

Jeumont-Schneider hopes that the French government will provide cash help for its new venture in the framework of the five-year plan for the electronics industry which will require total investment of FFr140 million (£11 million).

Initially, Jeumont-Schneider will take an 18 per cent stake in Microfive, with an option to raise this to 51 per cent control in a partnership with SG2, France's fourth ranking software services firm.

Echoing Jeumont-Schneider's optimism, Pierre Chavance, chairman of Alcatel-Electronique, a CIT-Alcatel subsidiary, predicted sales of FFr 2.2 billion (£180 million) compared with FFr800 million (£64 million) in 1979.

Chavance said: "Our strategic choices were well made at the start. Thanks to its trump cards, Alcatel is France's only hope in office automation equipment."

Cheap academic Unix

by Robert Parry

UNIVERSITY Unix users can rest easy. Despite fears that AT&T was about to hike the price of a Unix source licence to academic bodies from $350 to over $3,000, the cost of a licence to degree granting institutions has now been set at $400.

And, thanks to London-based Root Computers, enhancements making it friendly and easily usable are to be available for an extra £150 only.

At the recent European Unix User Group conference in Leeds, Otis Wilson, AT&T's technical licensing manager, announced that the Unix System III academic licence would be $400, with an all-site upgrade from other Unix versions costing $800.

This compares with a commercial licence fee of $43,000 plus $25,000 for the right to issue sublicences.

Wilson also said that future releases of Unix will be compatible with System III, the first deliberately commercial release of the operating system born in Bell Labs.

According to Robin Schlee, marketing manager of Root Computers, this will lead universities to move over to System III from the earlier Unix Version 7, and he suspects the commercial market will follow.

Root is a DEC OEM, its main business being the supply of System II to commercial end users. It has implemented the operating system on the full range of DEC equipment, including enhancements like a full screen editor, spooler, and a user overlay allowing big programs to run on PDP-11s with limited address space.

"It took some effort to convert System III to run on DEC kit," says Schlee. "About two man-years in all." As a marketing policy, Root is following AT&T's lead and will supply the source code for its add-on at £150 to any university that has a System III source code licence from AT&T.

WILSON . . . "Future releases will be compatible with System III."

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Tektronix ups software output

by Frank Brown

MANUFACTURERS of dedicated 16-bit micro systems must automate the development of software for their products, or face prohibitive costs which they will be unlikely to recoup from product sales, according to Tektronix microsoftware expert Rick Potter.

"Development software for a $10 chip can cost $200,000 using conventional non-structured techniques, and Texas Instruments estimates that by 1985 the typical microprocessor application will cost its developer upwards of $3 million if produced in the same way as today," he said.

Potter was speaking at the UK launch of Lands (Language Development System), Tektronix' new package of software designed to cut the cost, improve the efficiency and speed the throughput of 16-bit applications software development.

The problem of software development costs would get worse, Potter contended, because the supermicros of the Eighties required considerably more program code to make full use of the extra processing facilities they would provide. A 16-bit device, for example, requires for full operation four times the amount of code that is needed for eight-bit devices.

This, coupled with the shortage of proficient programmers, the present error-prone methods of developing programs, and the extremely high cost of correcting errors in the final stages of system development, could adversely affect the adoption rate of supermicros.

The solution was not more programmers on each project, Potter said, but better software development tools which automate all stages of program development, including initial design and hardware/software integration as well as code generation, and improve overall project management.

The specialised tools the package provides are combined with structured programming, to make software development an engineering discipline rather than an art.

Lands allows programmers to work in a high-level language, Pascal, throughout the whole software development cycle, from entering of source code to debugging the prototype.

Lands comprises a language-directed editor (LDB) which provides full Pascal syntax checking during source-code entry, a Pascal compiler which provides I/O simulation for any operating system, an integration control system for configuring software to fit system hardware, and a Pascal debug that enables debugging using Pascal-oriented statements to eliminate the need to translate assembler listings back into source code for debugging at hex level.

POTTER . . . development software for a $10 chip can cost $200,000.

MSC adds to training grant cash

by John Kavanagh

THE Manpower Services Commission has revamped its scheme of computer training grants to employers to make more money available. It is also preparing to overhaul its much-criticised TOPS training scheme.

These moves follow a restructuring of the MSC, which has put all computer training under one man, Hugh Sharp.

"In the past only 500 of our 2,000 annual grants to employers have been taken up," said Sharp. "The scheme is now better presented and more flexible. Previously we specified a rigid number of weeks for the training; now it's at the employer's discretion.

"We're also encouraging employers to come to us with ideas on training in new skills."

The grants have been increased from a scale of between £60 and £80 to a flat £100 a week. The MSC is allocating £2 million to the scheme, which is aimed at existing computer staff or people in other areas with computing potential.

MARTIN . . . watching and waiting for IBM, in several areas.

CDC gives disc choice

by Philip Hunter

IBM USERS with medium and large-sized IBM mainframes have been offered a choice of disc drive with two new UK releases from Control Data.

One is a disc system called 33750, which is compatible with the IBM 3375 disc system. This is aimed at the larger IBM 4300 machines and the bottom end of the more powerful 3033 range.

The other new product from CDC is the 33800, which is plug-compatible with the IBM 3380 disc system. This is aimed at the market for the larger 3081 mainframes, and the top end of the 3033 range.

Both the new disc systems come with storage control devices to allow CDC discs to be attached directly to the IBM computers. The smaller 33750 can be upgraded to the 33800. CDC claims that its new disc systems offer bigger storage capacity and faster access than their IBM equivalents.

CDC is said to be following IBM in the optical disc area, which many observers expect to become a prevalent medium for mass storage by the mid-1980s. "We are watching and waiting for IBM," said Bill Martin, CDC's systems architecture manager.

Accountants deny cover-up

by Howard Karten

THE American Institute of Certified Public Accountants, a professional society of accountants, is holding back a report on computer-related fraud in the banking and insurance industries, it is claimed.

According to a story in *MIS Week*, published in New York, AICPA officials have not released a report by a task force of the EDP Auditing Standards Subcommittee for fear it could lead to professional embarrassment.

D. R. Carmichael, vice-president, auditing, of AICPA, said: "There is not a shred of truth to the comments of the unnamed source." According to *MIS Week* its source was a member of the EDP Fraud Review task force.

Carmichael said that the report had been due to be filed by October 1981, but that the group's "literary effort" was deficient, and that the report required additional analysis.

According to *MIS Week*, one of the points made by the study which irked AICPA officials and members of committees that reviewed it, was that most computer-related fraud has been turned up by accident or by customer complaints, rather than by auditors.

ANGLO-DUTCH SOFTWARE COLLABORATION

Holland Data Group, a data processing group of companies including a software house and a computer services organisation), seeks to establish immediate contact with a small to medium sized SOFTWARE AND/OR HARDWARE (OEC or PRIME OEM) COMPANY.

Holland Data Group is about to order either a DEC VAX 750 or PRIME 750 computer for its specialised computer services, and is interested in collaboration with a British company specialised application packages and software application development tools, such as programming generators – compatible with DEC VAX or PRIME.

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Sinclair tops govt's offer

by Robert Parry

SINCLAIR last week topped the government's £9 million scheme to put micros in all 27,000 UK primary schools with a £15 million bonus offer of the company's own.

The company is to give a ZX printer, a copy of the Logo educational computing language, and 10 discount vouchers for future purchase with each of its Spectrum micros bought with the Department of Industry'a 50% subsidy for schools' purchases of their first micro.

"It is our way of making the point as dramatically as we can," says Clive Sinclair, boss of Sinclair Research. "One computer per school is a great help, but it is only a start. The ideal ia one per child."

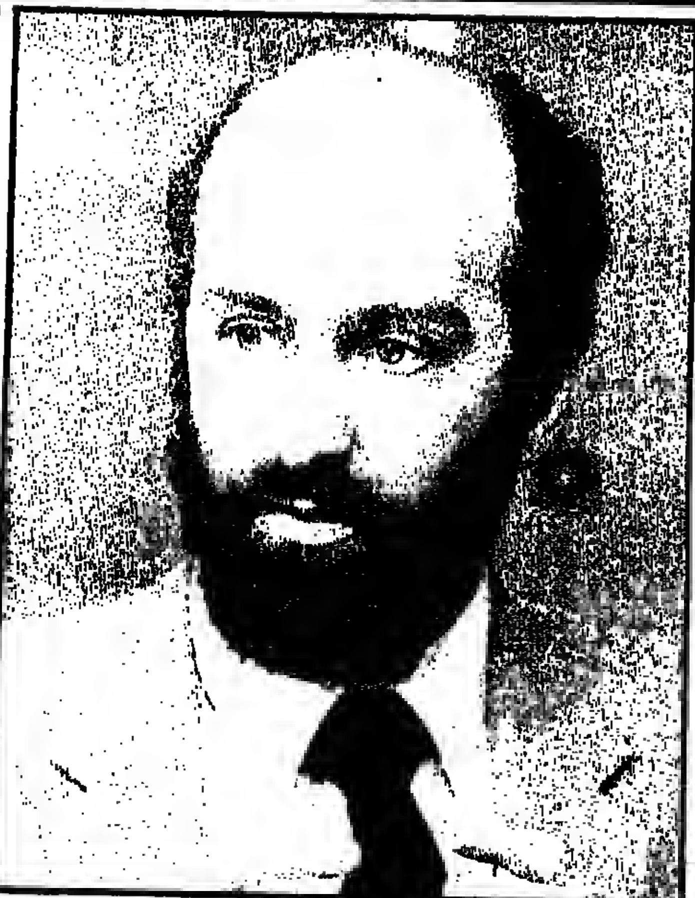
The vouchers may be used to get a £45 discount on the normal price of £175 for a 48K Spectrum, or to get a free printer worth £60 with a full-price Spectrum.

The Spectrum Logo language, which will come free in the package offered by Sinclair for the Department of Industry scheme, joins two other micro versions available for the Apple II and Texas Instruments' TI 99/4A.

The combination of computer and Logo gives s model of the natural environment of the real world, says Nigel Searle, bead of Sinclair's computer division, and means children do not have to adapt their way of thinking to fit in with the computer.

The Logo package, which will sell for below £25, says Searle, will be joined by a Spectrum version of Prolog and further packages in Sinclair's range of educational software.

The DoI Micros in Primaries scheme starts next month and runs until the end of 1984. Money from schools to buy packages based on the Sinclair ZX Spectrum, Acorn's BBC Model B and Researcb Machines' 480Z will be matched pound for pound. Sinclair hopes his scheme will induce schools to plump for the Spectrum. "Our objective is always monopoly," he adds.



KENDRICK . . . Setting up a network of 50 dealers.

Positron back in business

by John Kavanagh

THE government-backed microcomputer manufacturer Positron Computers has recovered from a false start in the business systema market and is now appointing UK dealers and offering programming toola and applications software.

And one of its aystems, with a keyboard adapted for the French market, is being evaluated by a French dealer, while negotiations are on with US distributors.

Positron has parted company with Shaw Business Centres, appointed earlier thia year to diatribute the company's 9000 micro nationally. Positron aaid Shaw did not provide the customer back-up which had been expected.

This second time round it haa appointed Ian Kendrick as dealer sales manager. Kendrick ia now setting up a network of 50 dealera.

Positron is also supplying the Modusoft range of software development aids from young company Measurement Systems.

Another suit for Burroughs

by John Kavanagh

ANOTHER frustrated Burroughs user is preparing to sue the company over the performance of its B700 business computer. ARI Propaflor, a UK manufacturer of raised floors, is one of 150-odd firms, almost all in the UK, believed to have lawsuits outstanding against Burroughs. Most involve the B80 and B800 small computers.

Propaflor managing director Andrew Harvey aaid his company could be claiming over £125,000 against the cost of equipment, software and lost time.

He said Propaflor had had problems with both the B700 and the Conacs package for the contracting industry.

"First Burrougba said the problem was operator error, then they said we should upgrade the software to a later version and finally they suggested moving to a B800," he said.

"We gave them a deadline for getting things right and they failed to meet it so we bought an IBM System 34. That system was in and working with a package in just over a month, which proves there was no operator error."

Burroughs would not comment on the complaint because it had not received full details.

WP software heading for Euro boom

by Philip Hunter

THE European market for word processing software on general purpose computers will double in size during the next three years as it catches up with the US. By 1985 the market will be worth about £20 million, with software packages to adapt existing equipment for typesetting showing the biggest growth of all, about 33% a year.

These findings are contained in a 293 page report by international market research firm Frost & Sullivan. Until now, says the report, the European market has focused on word processing software packages for conventional business minicomputera.

But in the US there have been more dedicated systems for office word processing and typesetting.

Europe is expected to follow auit as union resistance to new technology, eapecially newspaper typesetting, continues to decline.

SALES BRIEFS

Citibank upgrades to fight crime

CITIBANK, the bank with biggest assets and profits in world, has installed 100 Milgo Datacryptor II encryption devices on its Middle Eastern African data links. The equipment upgrades Citibank's previous word-based security system was installed because the bank observed a worrying growth computer crime. It passes over billion a day around its international data network.

Order of Society

MANSFIELD Building Society, the latest of 12 building societies order Philips PTS 6000 counter-top terminals from Centre-file, NatWest Bank subsidiary. Centre-file'a software and its bureau-based counter-top terminal service now due to be installed in building society branches year, earning the bureau lion.

Floppy business

EX-CELL-O Corp, the US-based maker of Remex floppy drives, has signed up Technitroo International of Windsor as European distributor for its products. Technitroo is a subsidiary of the US-based engineering company Dynser.

Gaining access

MAP Computer Systems based Oldham has won orders from Ferranti and BICC for its CO2 protocol emulation software which enables microcomputers to access ICL mainframes. It has also been asked to adapt the software for Quinox range of micros so that can be offered as an option.

Tree system

THE FORESTRY Commission has placed an order with Godalming-based G. F. Marshall Computer Services for map digitising, plotting equipment and software. The system is based on minicomputera, and will help the Commission to produce Ordnance Survey standard maps of its forests from aerial photographs.

Mercury links

THE UK subsidiary of Digital Communicatioos Corp has received a further two orders from Cable & Wireless on behalf of Mercury Communications to equip its alternative telephone network. The orders are for £1.1 million worth of TDMA (time division muliple access) digital radio links and for £237,000 worth of delta modulation codecs to digitise speecb traffic.

BT workstations

BRITISH TELECOM has ordered 13 OTL IMP Information Management Processor workstations costing over £100,000 for its Martlesham research laboratory from Wincbester-based Office Technology. The workstations, which have black-on-white displays, will be used in the typing pool and in human factors research. Launched last October, the IMP is claimed to be the first office automation system to integrate voice, text, data and graphics. It was recently the subject of an agreement under which Nixdorf markets it in Europe.

Dive safely

A COMPUTER project aimed at reducing the number of diving accidents has been set up by Reliability Consultants (RCL) on behalf of the Department of Energy. RCL will establish a database of diving accidents from which computer programs will use statistical methods to determine the most dangerous types of operation and equipment.

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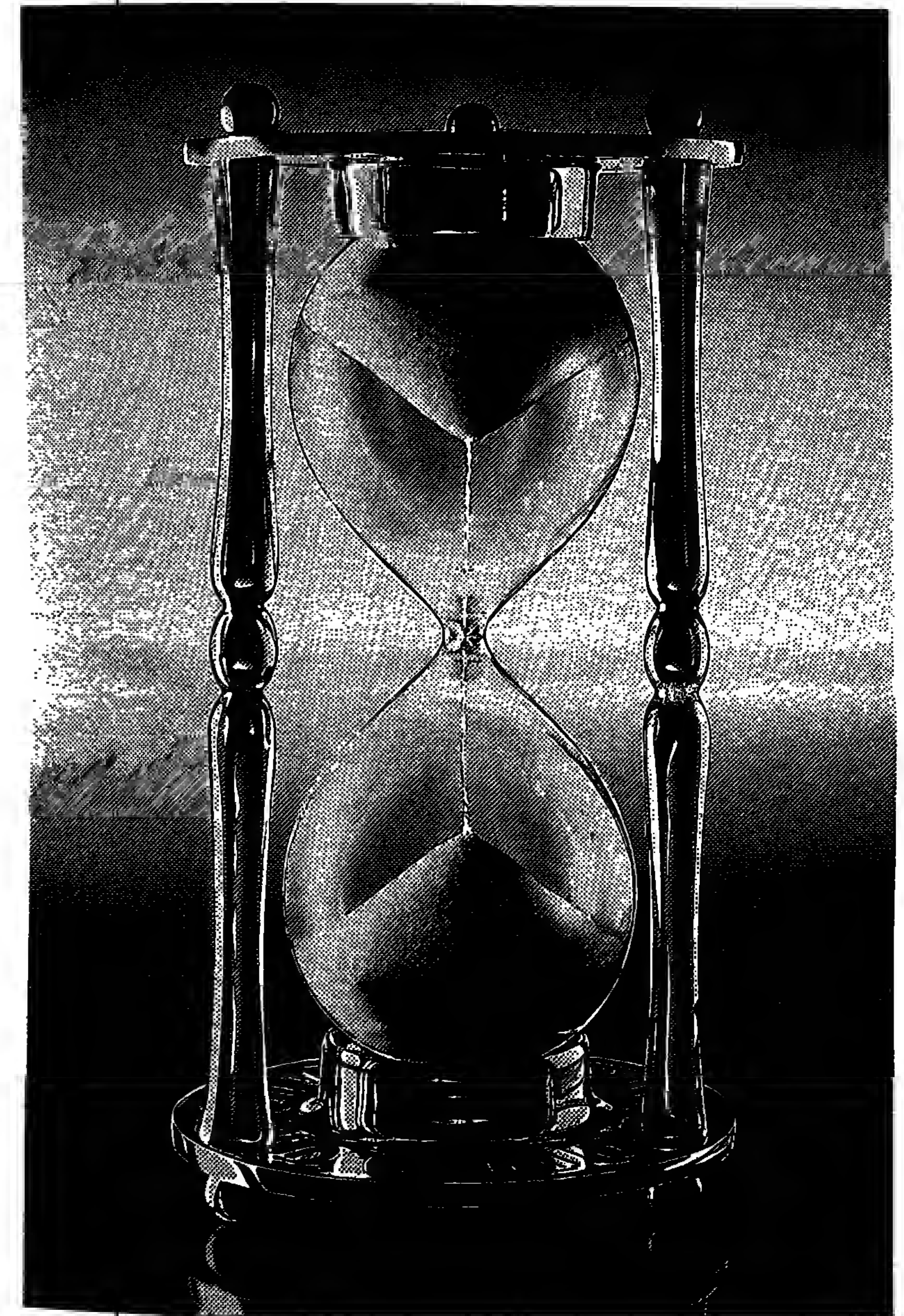

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New rates law means big sales

by John Kavanagh

SYSTEM suppliers are hoping for another bonanza in the local government market because of new legislation which pushes the handling of rates and rents rebates from social services to housing departments. The new rules affect over 600 local authorities.

But suppliers are hoping for fairer shares of the business than they had when earlier legislation brought a need for systems to manage direct labour organisations. For they say they were ruled out of contracts because two companies – ICL and CMC – were designated preferred suppliers by the Chartered Institute of Public Finance and Accountancy.

Meanwhile the "preferred supplier" tag has backfired in ICL: the company's direct labour organisation system has been refused Cipfa's seal of approval and is being amended for reconsideration next month.

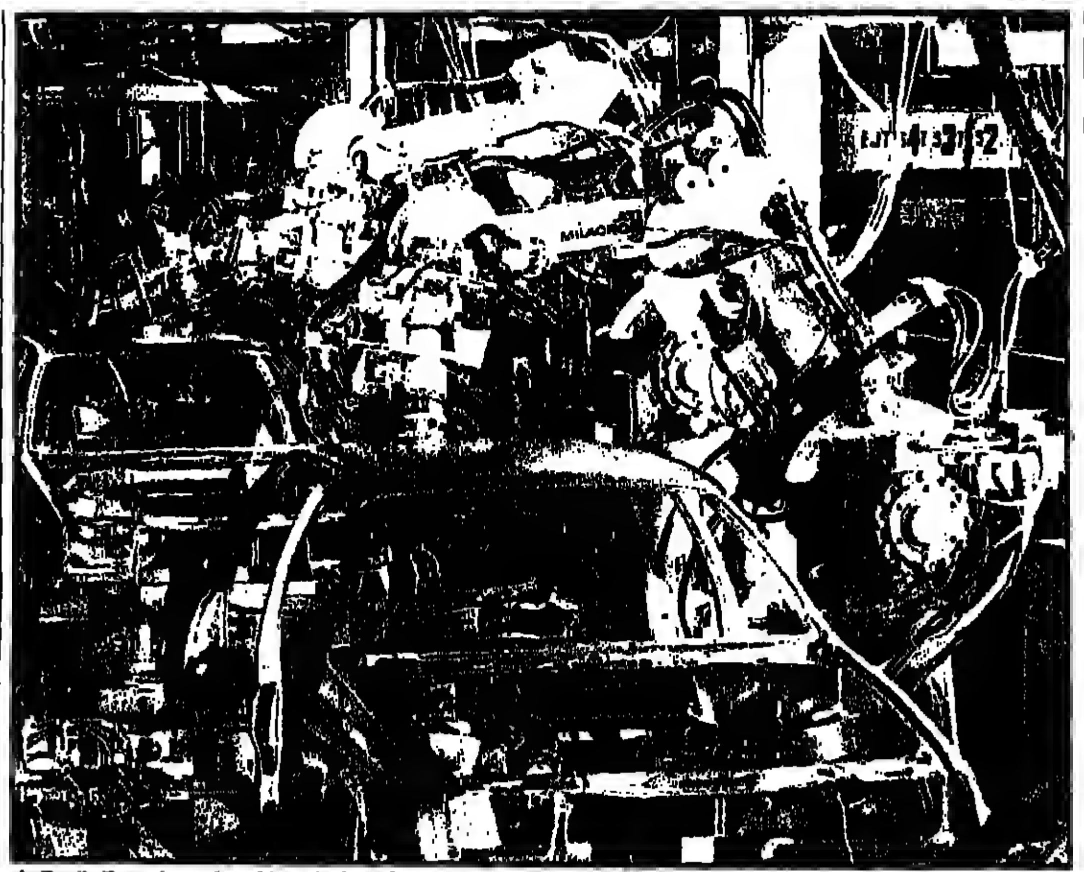
The new housing benefits legislation comes into full force in April. A system specification has been produced for Cipfa by software house F International. About 120 local authorities have bought the specification at £325 and computer firms are now being offered it at £1,325.

Cipfa says it is not going for the preferred supplier approach this time. Instead it has offered to run consortia of local authorities working with particular companies.

"Last time CMC and ICL already had basic systems on which to build direct labour organisation packages," said Cipfa under-secretary Ron Aldridge. "This time everyone is at the same starting position."

About a dozen computer manufacturers and software firms bought the £7,500 specification on the direct labour organisation system. ICL had a consortium of 28 local authorities and CMC had 21. Companies without Cipfa's "preferred supplier" seal of approval included NCR, which has six orders, ABS Computers, with three, Sperry Univac and ADP Network Services.

■ Systems house Leasco Software is aiming at big local authorities with its Lohmacs housing management system. The system already runs on Digital Equipment minicomputers and is being upgraded to DEC's VAX 32-bit machines. And it is being converted to run on an ICL ME29 following an order from Slough Borough Council. Lohmacs has also been sold in Australia.



At Ford's Dagenham plant Sierra body shells pass along a line of 12 Cincinnati robots to be finish-welded.

Robot population doubles

by John Kavanagh

THE UK's robot population has more than doubled with the installation of over 150 robots by Ford for the production of its Sierra car, launched this week.

But the UK still lags behind many other developed countries in the robot stakes: Japan and the US share about 5,000 of the world's 8,000 machines and the rest are installed around Europe. BL's Metro plant has about 40 robots.

Ford has spent £500 million on manufacturing for its replacement for the Cortina. Half has gone on automating the other Sierra production centre, in Genk, Belgium.

In the UK the Dagenham plant in Essex now has 120 robots from US, German and Italian manufacturers, mainly for welding body sections together. The plant also has an automated conveyor system which brings body sections together from their separate welding lines for final assembly.

Another 20 robots have been installed at Ford's Swansea plant to produce rear axle assemblies, while others are helping build gearboxes at Halewood.

Ford says robots produce far stronger and more accurate welding than manual methods. The output is not significantly greater – the company is building up to 950 cars a day by March – but the quality is much better.

The number of manual welds has been cut from over 3,500 on the Cortina to just 503.

Plans for a university net nearly ready

PLANS for a nationwide university computer network are nearing completion and discussions over line tariffs are now on with British Telecom.

The plans could mean an exciting term of office for Professor Roger Elliott, who has just taken over as chairman of the Computer Board, the main funding body for university computing. Its budget is about £30 million. Elliott is Wykeham professor of physics at Oxford University.

At the same time the board is reviewing its entire computing policy and asking universities to think about the wider scope of information technology.

Work on the network plans has been going on for three years. The aim is to give users at any university access to campus computing across the country, enabling them to use the specialist application packages or greater power available at other sites.

Big regional centres in London, Manchester and Edinburgh serve users from far and wide, while in some areas universities have got together to set up their own networks.

The national network will use X25 packet-switching communications protocols, either over private lines or through British Telecom's public packet-switched service. Universities will have network gateways built into their mainframes or run on a separate small machine.

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Phone 'spots' dud card

by Margaret Cameron

THE transaction telephone has caught its first suspect – a shopper who presented a dud American Express Card for a £19 pair of shoes.

Physical phone checks are not normally carried out on Amex card purchases under £50. When the transaction telephone linked to American Express headquarters in Brighton revealed the problem with the card the local police at Brent Cross were called in.

The footwear was bought by a woman at Brent Cross shopping centre in North London.

The cashier ran the card through the special phone, one of only forty so far in operation in the UK and revealed the problem.

It is understood that the police later found a bootload of goods bought by the same woman using the card at other shops.

The great viewdata giveaway gets going with Timefame promotion

by Donald Kennett

THE IDEA of giving away viewdata terminals is catching on. The latest exponent of the art is the London-based firm of commercial investigators Timefame, which provides information to companies about their competitors and other companies they might be interested in taking over.

Director Roy Norman said his firm's database on Prestel had proved very successful in attracting new business over the last 18 months. But many more potential clients had stopped short of lashing out on a viewdata terminal even though they were interested in viewdata.

Timefame's solution is to do its bit towards enlarging the Prestel user base by giving away viewdata terminals and by offering customers a deal whereby they can publish information about themselves on Timefame's Prestel database. In the process everyone can learn more about Timefame.

Timefame's deal allows customers 10 Prestel pages to put their information on for £625 a year. They also get to keep a Datatext viewdata terminal with an alphanumeric keyboard. This is supplied by Radio Rentals Contracts which will also maintain it for a year; if the client wants the terminal sited at home, Timefame will pay for the British Telecom socket.

The Datatext terminals retail at £794 per unit, but, Timefame is prepared to install up to 1,260 of them during the next year – a total of £1 million worth. The company's traditional promotional activity has been through Press advertisements, but for the last year it has used quizzes on Prestel with prizes such as a holiday for two in Geneva, a Philips Laservision video disc player and a gold plated analogue quartz watch. It has also used Prestel to publish information on children to be fostered.

Norman says the potential of Prestel for promoting his business is considerable, and has prepared for growth without expanding the staff of 100 by installing a variety of mini-and micro-based message switches and office systems.

Although Timeframe provides a range of information on Prestel on subjects including road conditions, amateur athletics, yachting, holidays and Dyno-Rod franchise terms, the company does not expect to benefit financially from it.

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Racal pins its faith on modems

by Donald Kennatt

MODEMS are far from dead, according to Racal-Milgo. Despite the forthcoming introduction of digital telephone networks, the company has spent "many millions of dollars" developing a new range of modems designed to "last us right through the Eighties at least."

Modems, which are needed to transmit data over today's analogue telephone networks, will be rendered unnecessary by the digital networks of the future. But digitalisation, although well under way already, is unlikely to be completed until well into the 1990s and until then there will be a sizeable market for modems.

Launching the Omnimode range last week, Racal data communications group chairman Leighton Davies said: "Modems are 60% of our business and they will continue to be a large proportion of it for the next decade. There's hundreds of millions of pounds to be made in modems for many years."

The first model in the range is a 4,800 bit-per-second device with a fallback speed of 2,400 bps, which is designed for four-wire leased circuit operation. A 9,600 bps model will be next and slower devices are planned.

The basis of the range is a set of three LSI chips which carry out the analogue to digital conversion and the filtering and signal processing needed to compensate for line conditions. This is the bulk of the basic functions of a modem.

As well as sharing this chip set, the range will also have the same layout. That is, a simple single-channel modem is implemented on one printed circuit board and two more boards are available as options which provide line sharing and network management facilities.

A key feature of the range designed to make it particularly easy to use is that its operating parameters can be set from the front panel of the unit, down the line from the front panel of the remote modem, or from the console of a network management system. Racal calls this "soft strapping".

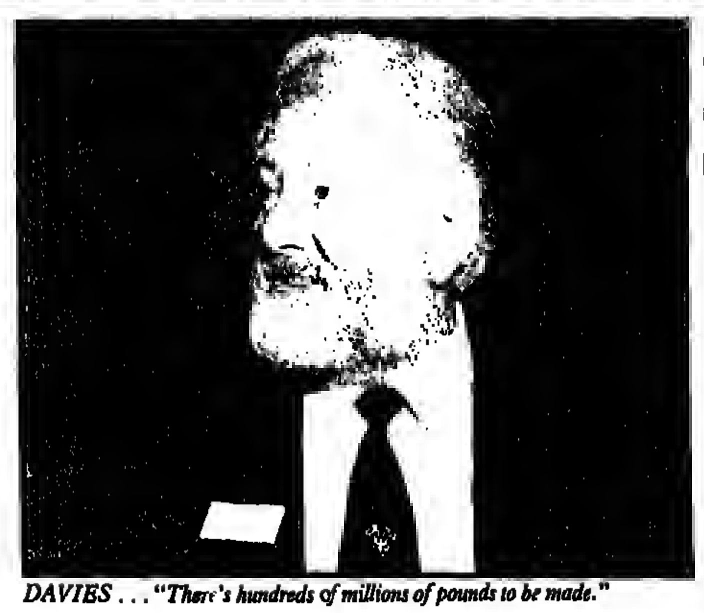
A total of 112 parameters can be set by stepping through the list and toggling the condition of each as it appears in the eight-character seven-segment display. Seven preset lists are available which cover the most commonly used configurations and they can be used as the starting point for special requirements.

The parameters include such choices as point-to-point or multipoint operation and conformance with international standards or with Racal proprietary techniques.

In conventional modems these parameters are set by numbered switches or soldered links on the printed circuit boards inside the case and must be checked against documentation to find out what they are. Because it is so easy to change them on an Omnimode modem, access to them is protected by one or more passwords which can apply to different sets of parameters.

The modem itself will reject unworkable combinations of settings and once setting is completed a back-up copy is made in EAROM (electrically alterable read-only memory) for protection against power failures.

The network management facilities include a variety of alarms, diagnostic aids and alternative low-speed channels including for two-wire operation on the public switched telephone network. The modem can also be given a remotely readable serial number, so that in large networks the central management system can keep track of individual devices.



DAVIES . . . "There's hundreds of millions of pounds to be made."

AEG has pension problems

by Kevin Cahill

WHILE German electrical giant AEG, parent of three of Germany's key computer companies, struggles to rescue itself from insolvency, a further complication has arisen.

AEG employs about 100,000 people, and along with employees' salaries, the company is also responsible for pension payments into the company pension fund.

Over the years, AEG has failed to adequately provide for its pension liabilities to the tune of three billion Deutschmarks, about $1.1 billion.

According to some commentators, the failure to make adequate provision was one of the ways AEG used to disguise its weakening profits and deteriorating balance sheet.

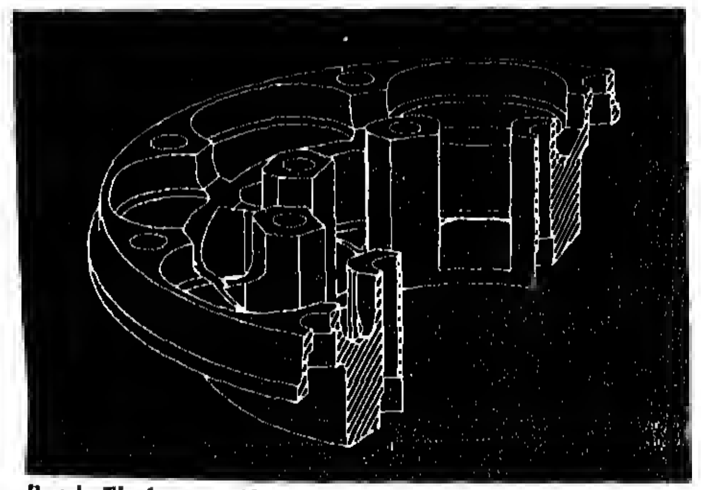
When AEG finally ceased to be able to trade normally and sought court protection from its creditors about two months ago, the huge pension liability was an even bigger deterrent to rescuers than the company's debts.

In the event, the pension fund liability will have to be picked up by an industry-wide fund which guarantees the liabilities of the pension funds of failed companies.

However, any deficiency on the scale of AEG's was never contemplated and many small German companies with no trading relationships with AEG have had to shell out to cover the deficit.

This has led to further concern in Germany over the whole AEG saga, which is still unresolved, even under the court protection sought by the company.

The German government had offered to guarantee about £250 million of AEG's debts a little over two weeks ago, thereby freeing the banks to continue funding AEG's daily business.



Romulus II software provides modelling facilities plus user interface features.

Powerful solid modelling for VAX

DESIGN departments with access to a Digital Equipment VAX computer and a need for powerful solid modelling facilities could be interested in a £64,000 hardware/software package now available from Shape Data of Cambridge.

The package consists of a PS 300 three-dimensional graphics terminal from Shape's US parent, Evans and Sutherland Computer Corp, plus a substantially enhanced version of Shape's modelling system, Romulus.

Romulus II adds a comprehensive user interface to the existing modelling facilities of Romulus. One major feature of the interface is cursor selection of items from an extensive menu of modelling functions. They enable the user to build objects from a selection of primitives and to unite subtract or intersect them to create more complex structures. There are also functions for hatching, splitting and flattening objects.

The new interface also provides the user with powerful facilities for manipulating the image of the object on the PS 300 screen. They include zooming, scaling and rotation around all three axes.

Shape Data marketing director Tony Bishop notes that user interface features for Romulus have only been available till now from vendors of complete CAD/CAM systems, like Ferranti Cetec, which buy the basic Romulus modelling system from Shape on an OEM basis and add their own interfacing software. Now any VAX user can buy direct from Shape itself.

Separately, the Romulus II software and the PS 300 terminal cost £18,000 and £60,000, respectively, but Bishop quotes £64,000 as the price of a package combining the two. Adding an extra PS 300 to a configuration costs £50,000 including the rights to use Romulus II on the terminal.

Bishop estimates 250 Kbytes as the memory requirement on the host VAX for each terminal.

Philips gets US-built digital switch

by Donald Kennett

PHILIPS Business Systems is aiming for a 20% share of the UK private telephone exchange market with multi-microprocessor based digital switch from Rockwell International in the US.

Philips signed the exclusive UK marketing agreement with Rockwell so as to grab the opportunity window created by the government's implementation of the British Telecommunications Act. It got itself accepted as one of the six trial digital PABX suppliers (out of 27 applicants) that would be allowed to put a system on the market ahead of the general liberalisation of PABX supply.

Managing director Brian Manley said that Philips had gained a 20% share of the UK market with its EBX 8000 analogue PABX. "But now is the right time for a transparent digital switch," he said.

"The UK user is more demanding than other Europeans and the market is ready to take off. Deregulation will allow us to back the exchange with our own maintenance – and our service operation is second to none.

"We believe this switch will be the core of many office automation systems. In future we will be adding dictation, message handling and word processing facilities to the basic voice switching."

The Rockwell digital switch, to be sold as the Philips TBX 3000, is claimed to be the only one in the UK to combine the functions of a PABX with those of an automatic call distribution system, which can queue and share out incoming calls on a pre-determined pattern.

It is also claimed to be the world's only commercially proven non-blocking switch – all lines and extensions can be in use at the same time. It was launched in the US in 1979 by Wescom, which was acquired by Rockwell the following year. There are now 100,000 lines installed and a further 50,000 on order in the US.

Although Philips refused to quote prices, Rockwell vice-president Rudi Schenken said the cost of the switch was comparable to the more common blocking types.

MANLEY . . . 20% of UK market.

US report predicts huge rise in portable sales

by Kevin Cahill

REVENUES from the sale of portable computing devices will grow a massive 1,100% by 1986, according to a report* from Californian consultants Creative Strategies International.

Worldwide sales of these devices, which range from the programmable calculator supplied by Texas Instruments to the portable micro sold by Adam Osborne, were $416 million in 1981.

CSI reckons that by 1986 this figure will have reached $5.3 billion, on the basis of shipments that year of 24.5 million units. Last year, the makers shipped just 2.2 million units, to bring the installed base to 10 million units. CSI says that future applications for the devices are limitless as capability increases and quality software becomes available.

Technologies which will influence the marketplace significantly will begin with ROM and RAM advances in CMOS. These will provide long memory retention with low power consumption.

Advances in display technologies such as flat panel, CRT, LCD, gas plasmas, and electroluminesence will provide low-cost lightweight displays with high resolution.

Improvements in miniaturisation techniques applicable to mass storage devices such as floppy and Winchester discs and bubble memory, will help to increase the capability.

Quality application software, developed primarily by end users and independent programming firms, will add value to products.

With the market predicted to grow by 200% a year, CSI notes how easy it is to enter this area. According to the report, the marketplace, apart from the programmable calculator segment, is so new that unknown vendors with quality low-cost products can enter and gain a market share.

CSI says many more suppliers including Japanese companies not yet in the market, major personal computer companies, and newly formed companies will soon enter the market, as the vast potential of portable computing devices is recognised.

CSI identifies four different segments in the portable computing device marketplace. These are programmable calculators such as the HP 55, costing less than $100; hand-held computers like the Tandy PC1 1211 costing less than $200; portable keyboard consoles such as the Sinclair ZX80 for about $150; and portable computers such as the Osborne for under $1,000.

In its first nine months of selling its $250 hand-held computer in the US, Tandy sold 50,000 units through its Radio Shack chain.

One of the most interesting portable computers is the Panasonic H 100 device introduced at Hanover this year. The machine comes with a complete range of peripherals, including micro-modems, printers and memory, and with a set of US-made portable Basic programs.

CSI notes that Clive Sinclair, with 450,000 units installed, has 100% share of his particular market segment. CSI says that this situation will change with mid-'82 launches of the Commodore, Panasonic and Epson portable keyboard consoles. Hewlett-Packard dominates the portable computer market with Osborne taking about 16% or so.

CSI foresees the Japanese making major inroads into all segments of the portable computing device industry. This is partly because the Japanese have got their distribution channels well organised. The report notes that most major Japanese vendors have had great success selling TVs, radios and other consumer electronic products, and the Japanese personal computer vendors plan to use the same channels.

*Portable Computing Devices: A Report by Creative Strategies International. San Jose, California. $1425.00.

HUSKY
Tough, portable computer.

NEWS ANALYSIS

No tears at ICL over mainframe tender loss

Kevin Cahill gauges the company's reaction to the Swansea DVLC shortlist

"WE DIDN'T have a machine to offer. We are not whingeing," was Robb Wilmot's reaction to the announcement that ICL was not on the shortlist of two companies invited to tender for the mainframe replacements at the Driver and Vehicle Licensing Centre at Swansea.

ICL's managing director also noted, with what appeared to be relief: "We've been saved about £500,000 in terms of the cost of siting a machine at Swansea as part of the tendering."

Finally, Wilmot put the value of the CPU element of that order at about £6 million, contrary to some commentators who have suggested a figure as high as £10 million.

So far the Treasury, acting on behalf of the Central Computer and Telecommunications Agency, has selected six companies – five of them American – to compete in a final tender for £16 million worth of equipment at the DVLC.

The elements of the tender so far made public are as follows:

A central processing complex, based on a five to six million instructions per second (mips) mainframe, which will be used to replace the large ICL System 4 installation already at Swansea. IBM will compete with Honeywell for this contract. ICL, which will not have its Estriel five mips machine until 1985, did not submit its name for the shortlist.

The second element of the Swansea contract is for optical character equipment with a handwriting input capability. This contract has OCR Scandata and Scan Optics shortlisted to bid for the machines.

Finally, there is a requirement for printers, probably laser printers, to be installed at Swansea.

Once more IBM has made the shortlist alongside ICL, which will probably offer Siemens printers if it is selected for the final order.

Companies tendering must supply on site at Swansea the equipment they intend to offer by the middle of next year, with installation commencing at the end of 1983, and ending in 1987.

A spokesman at IBM declared the company "very pleased" and went on to add that IBM had found the UK government scrupulously fair in honouring GATT, the General Agreement on Trade and Tariffs in force since January 1981. GATT covers the supply of

equipment to public authorities by international tender.

Earlier this year, in an uncharacteristic move, IBM sent out a Press statement making clear that if there was any sign of favouritism for local companies – in other words ICL – in the Swansea tender, then IBM would complain, probably in court, about the contract.

In the event, IBM also revealed that the company had recently won an order for a 3081 to do all the Inland Revenue's internal work from the computer centre at Worthing.

Speaking about the Swansea contract, Wilmot noted IBM's recent willingness to litigate, and seems to feel that another court battle with IBM, however indirect was something ICL could do without.

It is unlikely that the government was unduly worried by IBM's threats. By allowing the entire contract, bar the printers, to go to foreign suppliers, the UK government has permitted a situation which is unlikely ever to happen in America.

Commentators over there have suggested that a Federal contract for an installation like Swansea would be awarded to US suppliers, national security being cited to protect the local vendors.

Again by permitting an almost entirely American group of companies on to the shortlist, the government has made itself a useful reserve position in relation to the £700 million worth of equipment to be ordered for the DHSS in the next 10 years.

It will be difficult for the Americans to defeat a declaration that much of the processing involves the security of the state, or at least a substantial number of its citizens. About 50% of the population in all are paid pensions or other benefits via the DHSS.

Apart from anything else the software at Swansea, which some commentators suggest may have cost as much as £30 million, is still to be replaced. All this huge amount of code is in ICL System 4 Cobol and is not IBM compatible.

Should IBM win the tender for the central processing units, it or some other company will be faced with the mammoth task of either converting the software so that it will run on IBM machines, or of rewriting the system.

WILMOT . . . Values CPU element of the order at about £6 million.

In terms of the Centre itself, which has had more than its share of controversy over the years, the invitation to supply OCR equipment implies big changes in work and employment patterns in Swansea.

The invitation to supply "OCR equipment", rather than "paper equipment", looks suspiciously like an attempt to defuse the issue of employment at the huge and heavily unionised Keychec operation.

Finally, a point raised by Wilmot again is the terminal network, and presumably distributed processing machines, which will serve the decentralised elements of Swansea now that some of the work is to be farmed out to regional centres.

ICL, with its developing strategy of surrounding IBM host machines with ICL kit, looks ideally positioned to win any work going in this area. In terms of Wilmot's strategy, the Swansea project looks like the perfect ICL target, where ICL will not compete for the CPU, but attempt to supply all the peripheral equipment.

In this case of course, ICL and presumably IBM who did not submit equipment, overlooked the possible use of OCR equipment for input.

Neither IBM, nor the other well known OCR specialist Lundy Farrington offered equipment for the shortlist.

The handwritten input requirement and the page reader type machines are no longer in the mainstream of either company's product lines.

Swansea key-to-disc data prep operators – are they going to be replaced by OCR?

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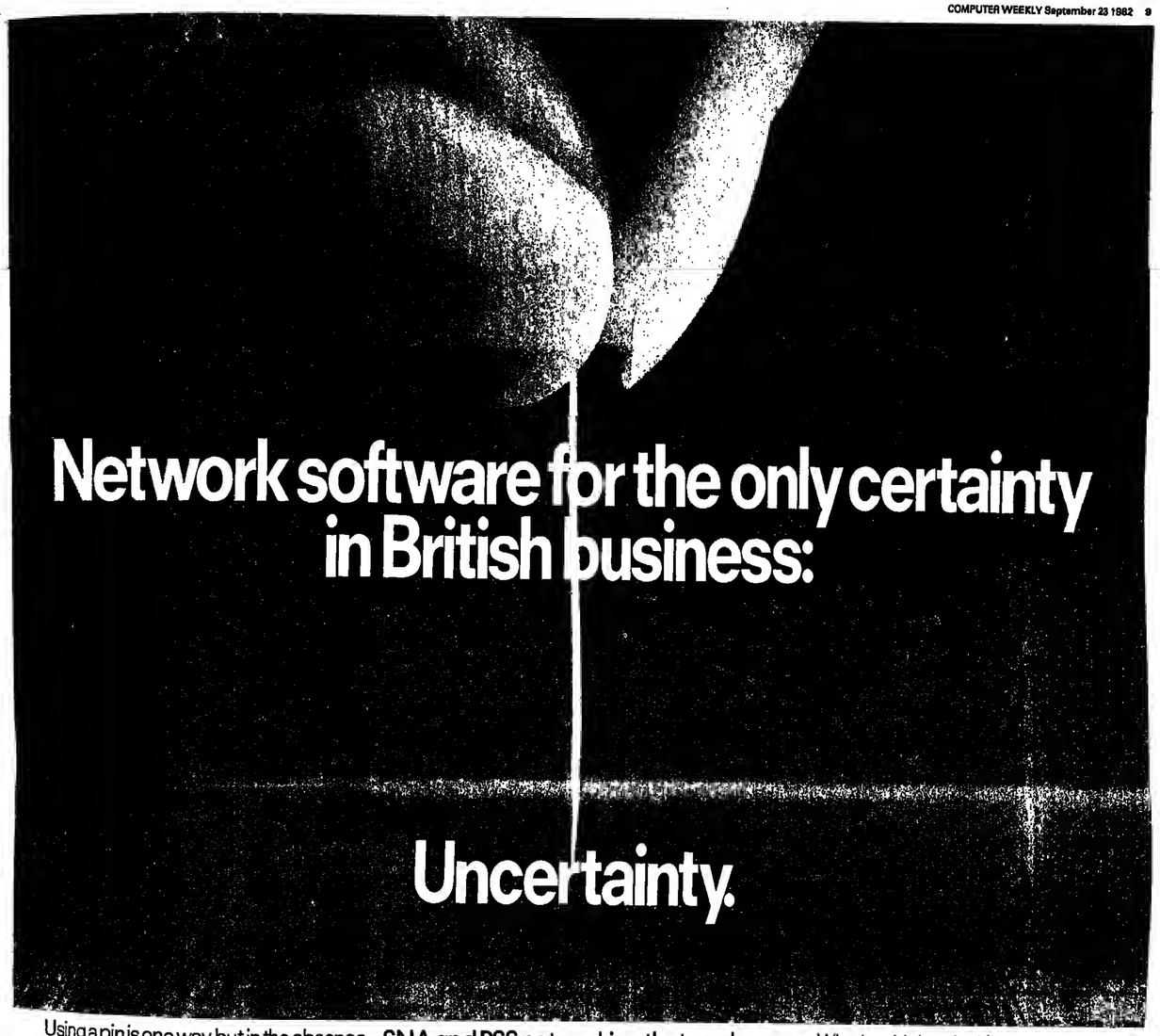

Using a pin is one way, but in the absence of any quick and infallible way of foretelling the future, Data General has designed the next best thing:

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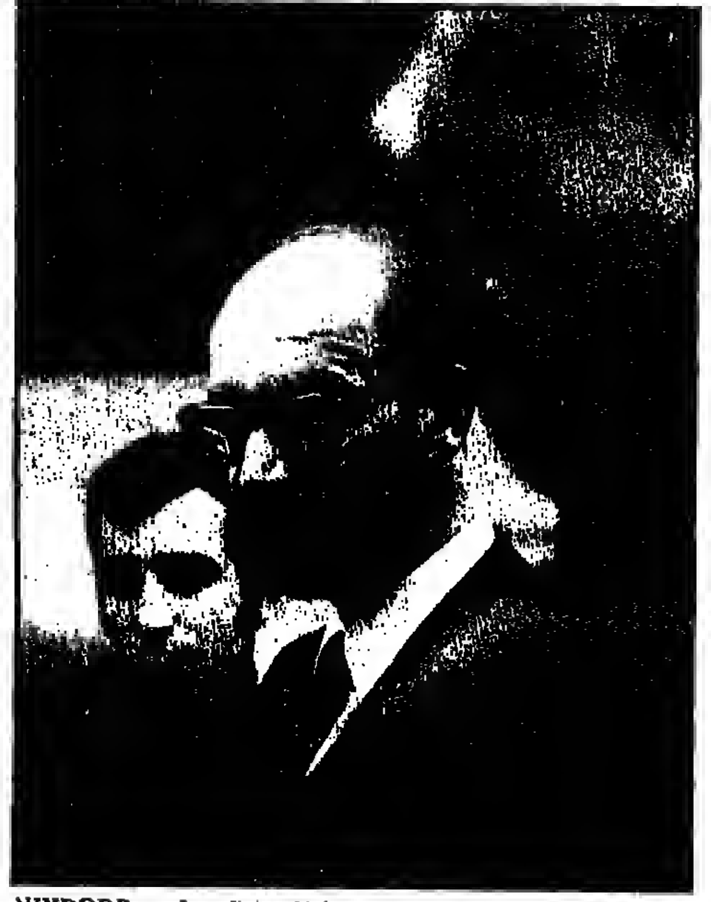
INTERVIEW



NIXDORF . . . *Low-living, high-achieving, unget-at-able.*

'We made it all' — key to Nixdorf's success

NIXDORF, for long a relatively minor force in the office equipment market, has suddenly begun tn make its name in the UK with a computerised automated teller order worth £2 million from Midland Bank.

In April the company launched its 8860 IBM-compatible distributed processing cnmputer and has just picked up an order worth £900,000 from Chevron UK. Earlier this year the West Bromwich Building Sncicty ordered £½ millinn worth of 8860 equipment for its branch network.

Kevin Cahill flaw to Germany to talk to Heinz Nixdorf, the company's managing director.

PADERBORN, where Nixdorf has his headquarters, is, like the man himself, difficult to get to.

It takes two hours by car from the nearest international airport to reach there, and Heinz Nixdorf rarely gives Press interviews. When he does, it is easy to see how his company has overtaken all the other West German data processing manufacturers to become that country's biggest and most important computer company, leaving giants like Siemens, BASF and Mannesmann in the shade.

Heinz Nixdorf is 57 years old, founder and chairman of Nixdorf, and head of producuon at the company's main plant.

Nixdorf is a physicist by training, but like the founders of Apple he dropped out of university to found his company, which finally passed $1 billion in turnover this year.

He says it was only in 1958, six years after he started the company that he realised the company would be very big one day.

"In 1970 I predicted that we would make turnover of $1 billion by 1980. It's taken only two years more. We made it this year," he says.

Nixdorf employs 15,000 people to keep the company's growth well above the 20% mark which it has achieved every year since 1970, with the exception of the recession between 1973 and 1976 when sales growth fell to 16%.

"We are very steady," says Nixdorf, and from his temporary office in the corner of a conference room, he points through the window to the giant earth scrapers busily preparing the ground for the fifth extension to the main plant. "We will be in that building producing equipment by this time next year, and employing more people to carry on that production," he adds.

Growth is clearly an abiding preoccupation fnr this engineer/manager, wbn while remaining very German also has the feel of a Nnrth of England industrialist about him.

On a tour of his factory he pauses longest at the mechanical production areas, where his engineers build all — and he stresses the *all* — of the mechanical parts required for the automated bank telling machines and cash dispensers which make up Nixdorf's fastest growing sales area.

A look behind one of the tellers and dispensers being prepared fnr shipment tn the Midland Bank in the UK makes one suddenly appreciate the interesting fact that electronics only occupies 5% of the space in the seven foot tall hardware.

Nixdorf employs 1,000 apprentices, wbo take a three-year training course nn machines that any good Midlands engineer would recognise. These include lathes, NCR cutting machinea, tool makers — all vital parts of the engineering heritage steadily being lost in the UK.

It is tempting to say that Heinz Nixdorf was lucky that the bank market opened up just when the US computer companies were left higb and dry because of their policy of sub-contracting all electro-mechanical work to specialist suppliers. Nixdorf was able to retain, expand and make handsnme profits out of his mechanical engineers.

But to call him lncky is to belittle the man and his vision. Nixdorf is, and evidently always was, quite certain that there was a big electro-mechanical element in the computer marketplace. He chose to avoid the American approach, and has now seen his decision pay handsome dividends.

One of Nixdorf's main European rivals, Philips, was recently forced into a collaborative venture with Diebold in the US and De la Rue in the UK in order to offer the software, hardware and security equipment needed by the banks. Nixdorf quite simply delivers the lot from inside one company.

The company employs 2,200 application programmers. "This," he says, "is because Nixdorf is first a service company, then an electromechanical company and finally an electronics company. Electronics anyone can do." The steady growth of the company in the banking markets in Germany and abroad, where it supplies a range of IBM-compatible office computers and distributed processing equipment, is due entirely to the approach to service the company has adopted, says Nixdorf.

"Of the 15,000 people we employ, only 5,000 work in production. The remainder, 10,000 or so, are in the field or in customer support services. We supply the complete solutioo to our customers, all our customers and not just those in the banking sector."

On a tour of the training centre Nixdorf, still on his theme of total supply capability, points out the walls of the plant, all fifteen miles of them, together with everything else — air conditioning and desks, fnr example, everything between the roof and floor — was built by Nixdorf.

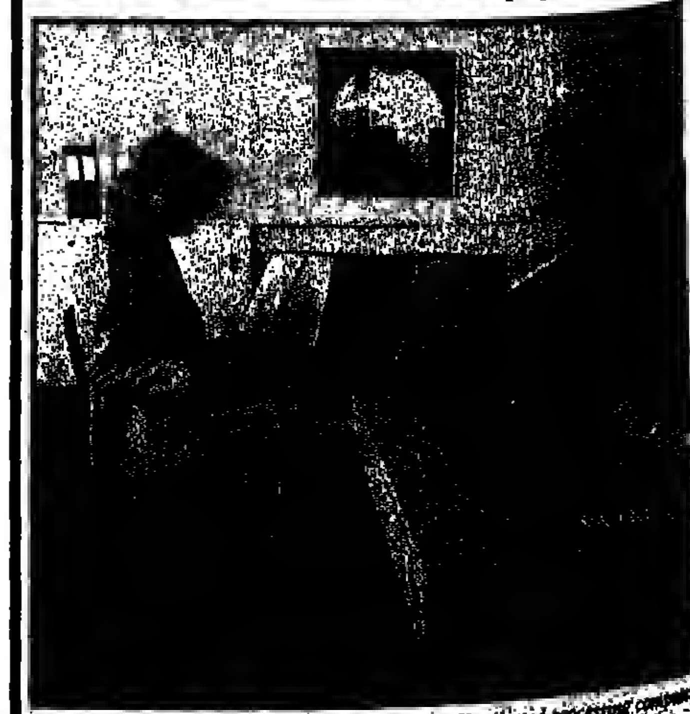
Has Nixdorf any regrets? "Tax," he says. "We have paid over $1 billinn in direct taxes over the years, and mucb more in social contribuuons. Our growth has been severely restrained by the tax burden."

This is not a personal lament from a get-ricb-quick entrepreneur. Heinz Nixdorf, like his friend Ken Olsen, the president of DEC, lives simply. He drives a 12 year old family saloon — an NSU RO80 — and according to his staff, all the dividends from his 67% holding in the company are reinvested each year.

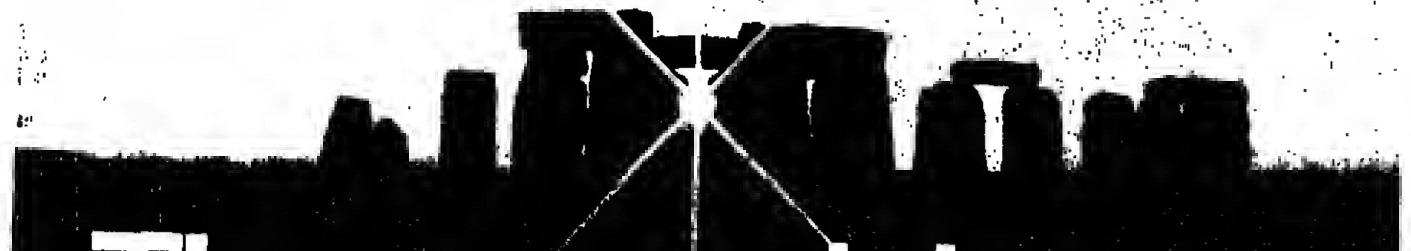
His cnmpany is very well established internationally, ranking number 54 on size of turnover among US computer companies on the US market. All the offices and establishmeots belong to the Nixdorf company — it does no OEM deals and has no agents.

Nixdorf's growth in sales volume for 1981/82 was 24%. Inflation in West Germany is about 5.2%, so Nixdorf's growth is way ahead of all but a few of even the fastest growing US companies.

So where will the company be in 1990? "We will be a $4 billion dollar company," says Nixdorf.



Nixdorf's recently launched IBM-compatible distributed processing computer



The ups and downs of the new GEC 4190.

Up: reliability.
Always a major strength of the GEC 4000 Series computers, reliability on the new GEC 4190 has been even further enhanced.

Down: price.
As a consequence of high technology components coming on-stream, and stringent measures applied to development costs, the GEC 4190 offers substantial savings over comparable equipment. Taking the price-to-performance ratio, the GEC 4190 is revealed as well ahead of the field. When you consider the other advantages, it emerges as outright winner.

Up: capacity.
Taking advantage of the latest developments in microchip technology, the GEC 4190 uses 64K RAMs contained within the CPU to provide modules of 1 Megabyte of main memory on a single board.

Down: power consumption.
The compactness of the new GEC 4190 has given a significant boost to power conservation. In some cases power consumption has been reduced by an astonishing 70%.

Up: performance.
In its present 32-bit, 64K RAM form, the GEC 4190 turns in an outstanding performance, but this is only a taste of what the future holds. For instance, the basic store boards are designed to cater for 256K RAMs. When these become a commercially-viable proposition it will be relatively simple to build 16M Bytes of main store into the CPU.

The GEC 4190 is fully compatible with all the machines in the GEC 4000 Series and enjoys the facilities afforded by the award-winning 'Nucleus' central executive.

Down: size.
Incorporating the main memory into the CPU has resulted in the machine being reduced to just two cabinets. In a typical 4M Byte system for example, the new GEC 4190 takes up just one third of the space of the GEC 4090.

Up: peripherals.
In addition to the wide range of peripherals available on the GEC 4190, a new option is being offered in the form of an 8 inch Winchester type cartridge disc.

This achieves a 38% price improvement compared to conventional discs, and combines the advantages of a sealed Winchester-type platter with a removable disc cartridge.

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SOFTWARE FILE

Expert office systems get a step closer

EXPERT systems as part of nffice automauon hsve moved a step closer for Xionics users with the introducuon of a set of telecommunications software modules.

Known as Isolink, the modules allow non-technical users of the Xibus multi-function workstation to access computer systems, applications, databanks, networks and network services without any knowledge of addresses, protocols, procedures or conventinns.

"The problem wben talking sbout expert systems at the managerial level is that data cannot be held locally," said Mike Bevan, chairman of Xionics. "Managers need access to informauon held nn internal and external databases or banks, and public viewdata services sucb as Prestel.

"There is still a long way to go before this can be treated as a hnmogeneous extension of a local system, but this is a strategic link in the long-term development."

Designed tn be consistent with the International Standards Organisation seven-layer reference model for open aystems interconnection, Isolink consists nf a fnur stage development.

The first stage is the specification of session functions in plain language, while Xibus implements necessary interconnection, storage and display. This is followed by automatic converssion implementation tn initiate and complete complex but regular procedures, and then automatic sessions set up on a clock or calendar basis.

Step four gives automauc "session concatenation", where the system carries out a series of interdependent access, processing and stnrage routines without reference to the user.

Isolink has been develnped in conjunction with ICI's Mond Division in Runcorn, noe of Xionics' first users, where the first two stages of development are currently being used tn provide workstatinn access for 400 DEC 10 users, linked to an IBM 3033 at a remote locauon.

"We are negotiating terms of exploitation with ICI at the moment and have submitted proposals for consideration," said Bevan. "I think, however, that the ultimate cost per user site will be usefully below £5,000."

BEVAN . . . *"A strategic link in long-term development of expert systems."*

Package teaches CP/M to beginners

FLUSHED with the success of its first product, a hands-on CIS Cobol training package, Microcal has launched a similar package for the CP/M operating system.

Forty copies of the £350 Cobol course were sold in seven weeks, and there are four more in the pipeline.

Designed for inexperienced end users, Hands-on CP/M Operating offers a complete training environment in which the student can explore without causing any real damage to files. It uses the same multi-user and student progress monitoring facilities as the Cobol course, whicb registers the exact stage reacbed by individuals.

"It was really a direct spin-off from the Cobol package," said Jon Shearing, joint managing director of Microcal. "We discovered that a number of people were buying our initial assessment software because it was a good introduction tn the use of micros in business. That made us think that there must be a market for something more specific."

The new package actually does more than intrnduce the user tn CP/M, it also simulates word processing and a typical financial planning package to show the type of facilities which can be available.

One sectinn of the course involves splitting the screen in two to shnw CP/M simulation in one half, with tutorial guidance in the other, so that the student can see the exact effect of an instructinn or receive a full explanation of an error message.

SHEARING . . . *"A direct spin-off."*

Displayed image looks real

DESIGNERS will be able tn see their work in terms of a real object at any stage of the drawing with a new package from CAD/CAM specialist Computervision.

Solidesign allows the designer or engineer to define three-dimensinnal parts and structures from solid geometric building blocks known as "primitives" as well as from lines and surfaces. This simplifies the design of complex structures and speeds up the producuon of technical illustrations, assemblies and exploded views.

Fully interactive, Solidesign can be used with any Computervision Instaview workstation, whether monochrome or colour, and is also integrated into the standard Computervision CAD/CAM software.

Computervision sees the main areas of the potential market for the package in the autnmative, light and heavy engineering, aerospace, microprocessor, electronics, architectural, mapping and construction industries.

Building from solid parts.

UK Tips outlet

DATA General users could look tn newly-formed Itel Software Systems for Tips, parucularly if they are interested in word processing.

Knightsbridge-based ISS has nn offer the Tips package developed by Information Processing Techniques in the US, which runs under DG operating systems MP/OS, DOS, RDOS, ICOS, AOS, and AOS/VS. Other items especially for DG equipment include a new release of the Supercomp financial modelling system.

Apple downloader

OWL Micro-Communications of Sawbridgeworth has announced a telesoftware downloader that will enable Apple II micro users to run programs obtained directly from Prestel viewdata frames. The downloader runs in conjunction with the existing Owltel package, which provides a direct interface between the Apple and Prestel.

Financial range

SOFTWARE house Systematica International in Suffolk has launched a range of new programs after its recent major cash injection from the APA Venture Fund. Under the heading of The Financial Controller, Pascal programs include job costing and financial planning, and they run on a variety of microcomputer hardware.

Eavesdropper

BAD news for office gossipers is that Minster Autnmation in Dorset has upgraded its Tiger Cub telephone monitoring and acconnting system. Tiger Cub can now store summary totals of all calls made to selected destinations, and print full details of the calls if required.

VAX compiler

A Coral 66 compiler to run on the Digital Equipment VAX minicomputer under the VMS operating system has been announced by the computer applications division of Yard. It already supplies Coral 66 compilers for DEC PDP-11s, but the new version takes advantage of the VAX short addressing modes, decreasing core occupancy and increasing execution speed.

UK distributor

US software house Professional Software which developed the WordPro series of word processing packages for Commodore Pet microcomputers has pulled out of the UK. Its software will now be distributed by Wego Computers in Caterham.

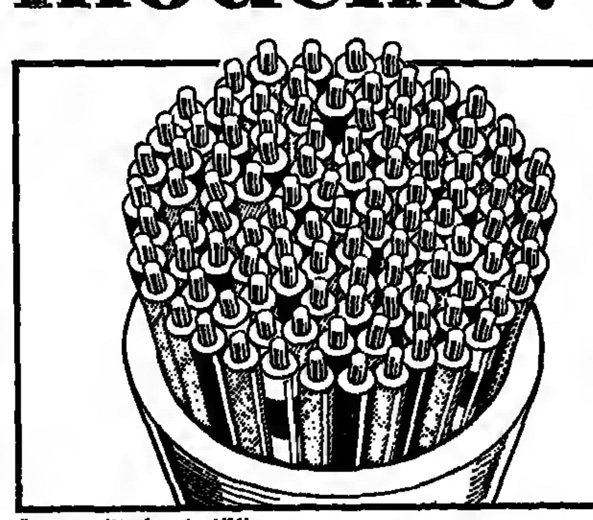
Trail blazer

AN acquisition trail is being blazed by software company Systemsolve with the buying of Athens Software, an offshoot of Zeus Hermes. The company says it is after other products and companies to enlarge its repertoire.

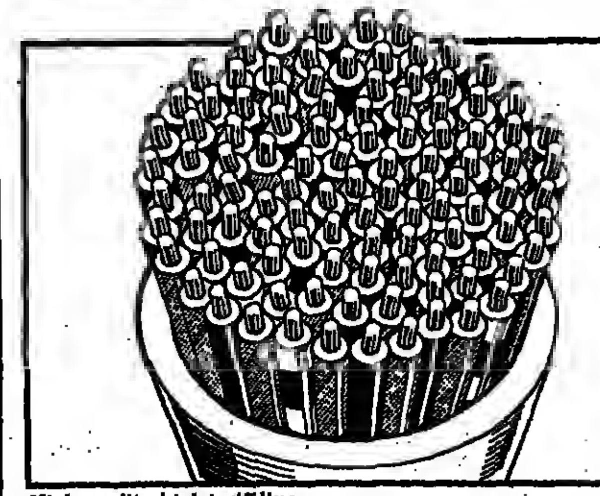
Software File is compiled by Maggie McLening

PHILIPS

Which line will you fall for when specifying modems?



Low quality, low tariff line.



High quality, high tariff line.

Low quality, low tariff line.
High quality, high tariff line.

Any other modem could be costing you a fortune in line tariffs. But not the Sematrans 2424 modem from Philips. It makes the most of any link, giving excellent full-duplex operation on PSTN or low tariff two wire leased lines at 2400 bps.

And you don't have to be an accountant to see the big savings–up to 30%–made possible by renting low tariff instead of high tariff lines.

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CW23/9

PHILIPS Business Systems

MAKING BUSINESS SENSE OF OFFICE AUTOMATION THROUGH VOICE, DATA AND TEXT HANDLING.

MICRO NEWS

European semis are 'forging ahead'

EUROPE is awakening to the advanced semiconductor market. And America's view of Europe is changing in recognition of this.

Charles Sutcliffe, recently appointed executive director of the US Semiconductor Equipment and Materials Institute, Semi, has reported aigns of recovery in the US semiconductor industry, and reckons that despite odd fluctuations recently, September could well see an upturn in the market.

"One reason for our increased optimism is the European market, which frankly has been one of the reasons for our depression over the last couple of years," he says. "Now we see Europe forging ahead in its quest for semiconductor technology."

The American perception has been that Europe lagged the US in semiconductor technology, he adds, but that was not a view he held. He criticises European equipment for not being highly automated, though it is good scientifically. In support of this he holds up developments like the UK invention of ion implantation.

Sutcliffe gives two main reasons for the awakening of the European market – the establishment of objectives by the EEC for semiconductor production technology, and the growing number of joint ventures in Europe that combine the technology and resources of European and American interests.

Tbe EEC's shopping list includes the most advanced tecbniques, says Sutcliffe, and the priorities centre on production equipment rather than the semiconductors themselves. This mirrors the current trend in the US, he adds.

SUTCLIFFE . . . *increased optimism about the European market.*

NCR leaps into 32-bit market

COMPUTER manufacturer NCR has taken a leap into the deep end of the semiconductor market with the introduction last week of a 32-bit microprocesaor. It has launcbed a four-chip set, to be sampled to other computer builders early next year, which it clsims is the most powerful available commercially, with the computing power of an IBM 370.

NCR joins semiconductor house Intel in supplying a true 32-bit processor to the merchant semiconductor market, estimated at $100 million in 1984 for 32-bit chips. As most of the promiaed 32-bitters are not due till the end of 1983 or into 1984, NCR is well to the forefront of the race.

The NCR chip set, called the NCR/32, is expected to find a market with people building anything from mainframes down to personal microcomputers. It offers power accompanied by an average cost reduction of between 30 per cent and 40 per cent, claims NCR – with the advantage of compaubility with existing computers through its external microprogram store. This will allow instruction sets to be tailored to fit existing software.

The microelectronics division at NCR only moved into selling semiconductors on the open market in June last year. But it developed an eight-bit nucroprocessor several years agu, for internal use, and has been manufactring a number of other processors under technology exchange agreements. The NCR/32 set was developed entirely within NCR.

The product will be available to customers in Europe in the same time scale as US buyers, says Steve Morgan, assistant vice-president for marketing in NCR's mieroelectronics division. "But we will very carefully control the product," he adds, "with most sold under non-disclosure agreements." NCR itself will be coming out with a range of board products using the chip set, as well as computera using the NCR/32.

Such non-disclosure conditions will also apply to development support for the chip set. Morgan says that development support is already in place, but prefers not to specify what form it takes. But he does claim that the aupply of chips and support tools is not limited by product availability.

In entering this market place, NCR faces competition from many established suppliers of high performance microprocessors. The four major 16-bit processor families – from Intel, Motorola, Zilog and National Semiconductor – all have 32-bit ioternal and ... cousins on the way, and ... iAPX 432 chip set is availabl...

Intel's iAPX 432 has ... shipped in small quantiti... over a year now, but it does... follow the Intel 16-bit family... It is not code-compatible wit... 8086 and its derivatives, ... claimed by NCR to be 10 ... slower than the NCR/32. A ... version of the 8086 archite... the iAPX 386, is due to be sa... in 1984.

Zilog's 32-bit processor, ... as the Z80000 (four nought... the momeot, is slso planned ... 1984. The development ... gramme is well under way, ... ing to UK managing director ... Pittman. This device will be ... patible with Zilog's 16-bit ... and will run Z80000 code.

But before these Intel ... family offerings hit the market ... other main semiconductor ... with designs contending for ... general purpose processing ... market – Motorola and Nat... Semiconductor – would ... produced samples of their ... NatSemi's is promised first, ... samples of its 32032 process... of the 16000 stable expected ... next year, while Motorola's ... is due to be sampled in the ... quarter of 1983.

Zilog aims to please all the people with four new Series 8000 models

by Donald Kennett

ZILOG is to replace its Seriea 8000 Model 20 16-bit microcomputer with a family of four Series 8000 machines designed to appeal to a wide range of users. Priced from £9,200 to £24,600, the models 10, 11, 21 and 31 are to be sold through systems and software houses which are expected to tailor them to different specialised markets.

The £20,000 Model 20 was launched a little over a year ago as the Z-Lab development system for Zilog's Z8000 16-bit microprocessor family.

It was renamed for its entry into the applications environment and has since had a number of high-level languages implemented on it, including Basic, Pascal, Fortran 77, the Unix language, C, and two versions of Cobol. APL is to be added next month.

The progress of Series 8000 from development system to office system is following a similar pattern to the eight-bit MCZ systems. But European marketing manager Dr Pamela Geisler ssid that this time the company was avoiding two expensive mistakes.

Firstly, Series 8000 has from the word go run under a standard operating system rather than a proprietary one. Series 8000 runs under Unix version 7, while the MCZ ran under Zilog's own Rio operating system at a time when CP/M was rapidly beeoming dominant.

Secondly, the new models in the Series 8000 range include cheaper cut-down versions for smaller installations as well as the more expensive and more expandable version.

UK systems managing director Phil Pittman said the company was now recruiting distributors to handle the smaller systems houses and self-sufficient users, supplementing its existing seven msin systems house customers.

The machine supports between eight and 24 users and, with an optional communications controller, can be connected to Zilog's Z-Net II 800 Kbit-per-second local area network. Z-Net II uses the U-Net networking software from 3Com in the US, which is designed to be independent of the network transmission syatem.

UK sales manager David Bethal said this would enable Zilog to substitute Xerox's 10 Mbit-per-second Ethernet system when the availability of chip-based versions made it cheap enough for the office market.

Geisler, Bethal (centre) and Pittman . . . avoiding expensive mistakes.

Controller for Arcnet

AN INTEGRATED local ... network controller chip for Arc... net, the local oet developed by Da... tapoint, is now commercially ... able from Standard Micro... through its UK distributor Man... hattan Skyline.

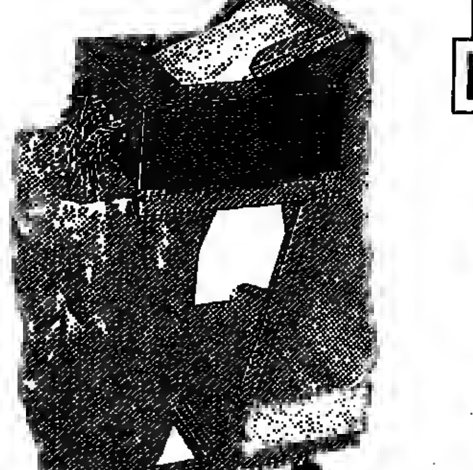
The Standard Microsystems device, COM 9026, is a ... protocol handler for Arcnet ... contains all the logic necessary ... control the tokeo passing mechan... ism on the network.

The single VLSI circuit ... place about 100 small or medium scale integrated circuits.

Arcnet was introduced by Data... point in 1977, a hardware imple... mentation of the company's ... tached resource computer network. It is a self-polling token passing network running at ... Mbit data rate.

Data 2000 Shredder

way ahead for...



P P R

PERFORMANCE

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the shredder people

NEC, Q1 Europe link to develop local net

JAPANESE microcomputer maker NEC has joined the rush towards local networking. Its European arm has developed a system in conjunction with Southampton-based Q1 Europe to link its PC-8000 personal micro into a hard disc based network of up to 64 machines.

NEC claims the network is faster and more versatile than other networks designed for micocomputer use becausc of Q1's established intelligent local area network and Winchester diac controller used in conjunotion with Q1's operating system. The network is compatible with the NEC CP/M version.

System software includes bad track identification and substitution, optimisation of the disc head movement, automatic error detection and correction, and general polling to give even response times to each PC-8000 attached to the network.

Users' own operating environments can be made secure, with file and record locking provided.

Currently the limit on storage ... the aystem is 160 Mbytes. A simple daisycbain scheme is used to connect units on the net via coaxial esble. Iodividual micros can be removed from the network even while other users are connected, without data corruption or affecting the performance of the network, says NEC.

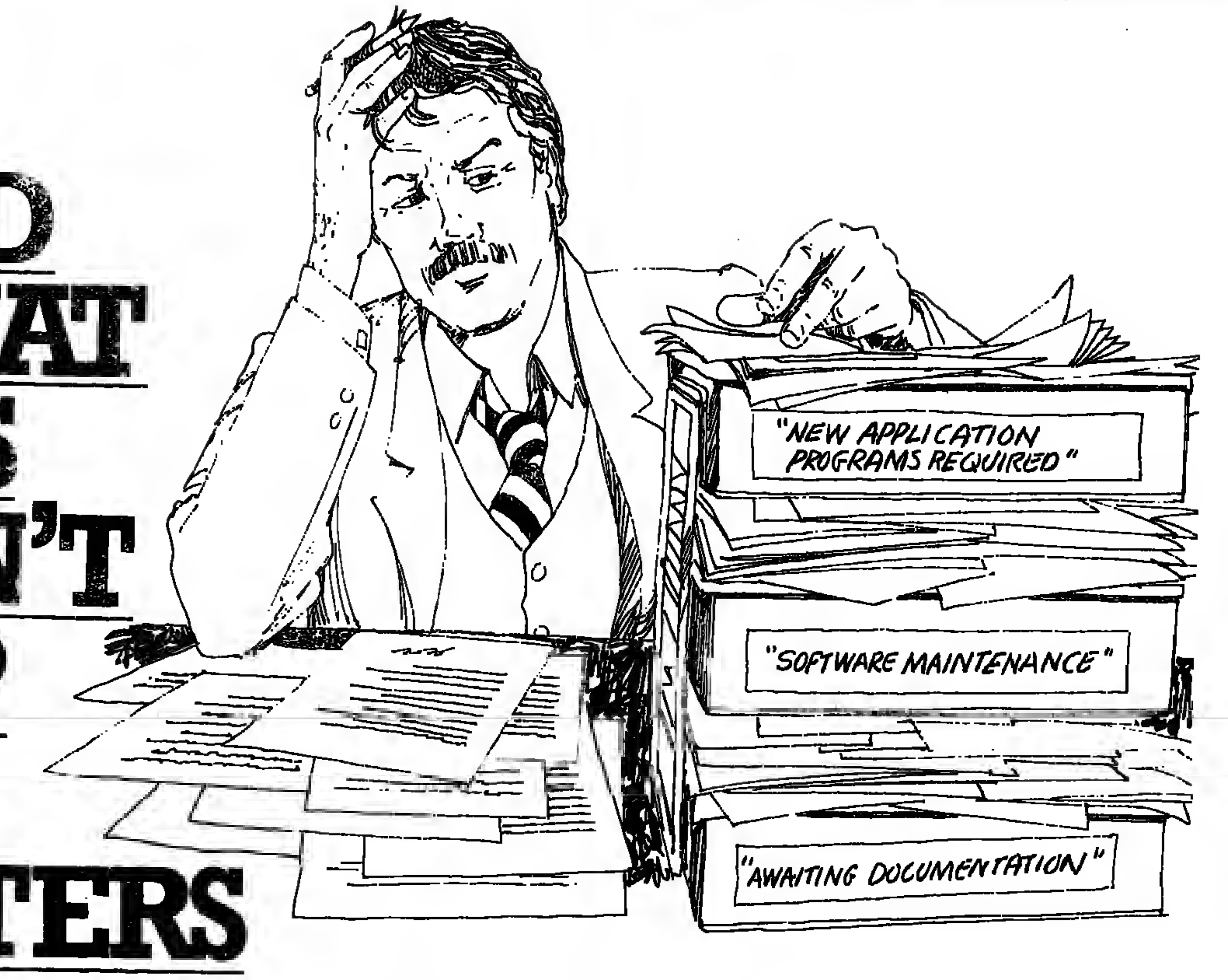
All other users will notice is an interruption of a few seconds while the ends of the daisy chain are reconnected.

■ NEC has also announced a set of business programs for the PC-8000, writteo in Pascal and sold as "Business Controller". Four modules are available, sales ledger, purchase ledger, general ledger and involcing. They form an integrated business suite.

Each module is supplied as a program on a diskette and can be driveo by two or more 5¼-inch disc drives. The software suite was launched in the UK early this month at the Personal Computer World Show held at the Barbican Centre.

Micro News is compiled by Robert Parry.

ITS A SAD FACT THAT HUMANS JUST CAN'T KEEP UP WITH COMPUTERS



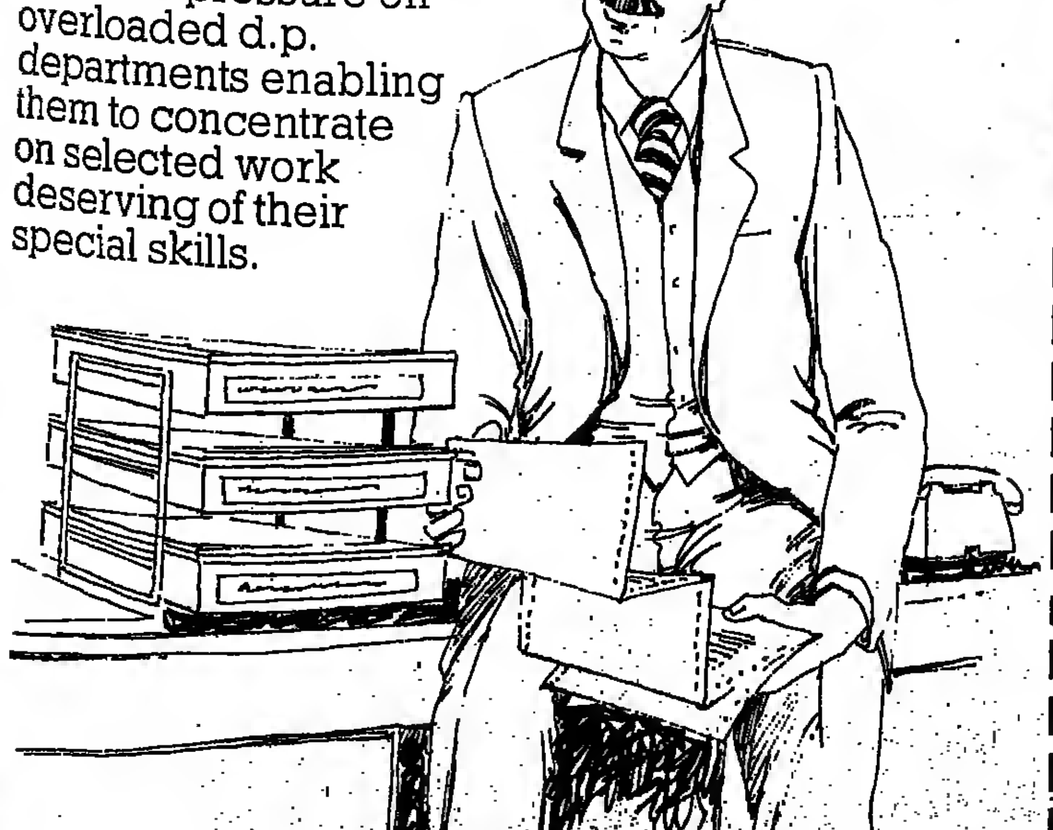
A few years ago the biggest single problem in computing was the man/machine interface. Since then the machines have advanced enormously with power, speed and capacity increases measured in powers of ten. Man, you may have noticed, is still much the same specification as before.

Consequently the man/machine interface problem is still with us and getting more critical. User departments are being told that new application software cannot be started for months and will take even more months to complete, debug, test and implement.

But if your computer department is equipped with a CMC Sequoia there is now a new tool which will slash application development, maintenance and implementation times. ALL is an Application Language Liberator which enables d.p. departments serving user's interests, or even competent users themselves, to produce typically 80% of their customised application program requirements in drastically reduced times - and run faster into the bargain. For example a General Ledger Journal Entry program which took 465 lines of Basic code and ran in 10kb has been demonstrated in 24 ALL statements using only 3kb.

ALL enables enlightened companies to reduce programming backlogs to manageable proportions. It takes the pressure off overloaded d.p. departments enabling them to concentrate on selected work deserving of their special skills.

ALL is available now and - with Sequoia - is a truly formidable combination. Its ALL you need.



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COMPANY NEWS

Shares go down at CCF

SIMON . . . Profits took a bit of a hammering because of the move, he said.

STOCKBROKERS took badly to the lower half-year profits at City of London based Consultants (Computers and Financial) and marked the shares sharply down from the high of 205p several weeks ago.

However, the reaction hardly seems justified.

Turnover at CCF, which supplies systems and software to financial institutions, rose sharply for the half year ending July 31, from £275,058 last year, to £478,161 this year.

Profits took a bit of a hammering, mostly attributable to the effects of the move to new offices by the company, according to chairman Tim Simon.

Profits at CCF slid from £61,062, to £38,756 for the half year, and the Payline bureau continued to make a loss of £20,000 compared with £17,069.

Simon said he was very disappointed at the loss at the bureau, but things had substantially improved since the half-year.

Group profits for the first half fell to £18,501, from £43,993, but Simon said that traditionally CCF did mucb better in the second half and a number of major contracts had been signed since J'ly.

One of these contracts alone was equivalent to most of the first half turnover, which was affected by hardware sales showing higher volumes but lower profit margins.

Sales rise —but profits fall

ANOTHER small systems supplier in the City, Borehamwood-based Business Computer Systems, has seen sales rise in the first half, but profits fell. Sales for the first half rose to £3.23 million from £2.97 last year. Profits for the balf fell from £131,000 to £104,000.

Managing director Mike Munnelly says that most of the slippage on profit was due to higher investment in product development and to investment in the company's engineering division.

For the second half Munnelly says that the company has a strong order book, with deliveries of the company's own Molecular series of machines now approaching five units a month.

The company has established a market lead in the supply of hardware and software to livestock auctioneers and recently took its twentieth order, worth £180,000 for a system for a livestock auction group in Aberdeen. Munnelly says he is on course to deliver £1.4 million worth of Molecular machines in the second half.

Hoskyns still ahead despite parent rows

THOUGH its ownership is in some doubt as a result of the three-way scrap between current parent Martin Marietta and would-be owners Bendix and United Technologies, UK-based Hoskyns Group has done remarkably well in the past year.

The company, unlike the majority of American subsidiaries, produces a proper annual report, complete with a balance sheet and profit and loss account. This report just released shows that in the period October 1980 to October 1981 the Hoskyns group pushed turnover up to £21.4 million from £17.6 million for the previous year.

Trading profit rose from £1.77 million to £2.38 million, but the tax take rose too, from £320,865 to £473,806 modified slightly by a deferall of £165,903 of the taxman's dues.

The level of profit retained by the company to fund future operations rose from £819,000 to £1.275 million.

The company, unlike many others, also managed to sharply increase its cash position, without recourse to additional bank debt, which has stood at £500,000 for two years. Casb rose from £90,827 in 1980 to £588,836 in 1981. Tony Robinson, Group managing director at Hoskyn said that the UK company does not remit profits of dividends to the US.

"All the profits we make are reinvested in product development and in the growth of the company," he says.

Since the Martin Marietta [illegible]keover in 1975 Hoskyns, which was founded by the recently [illegible]nobled John Hoskyns, has push[illegible] sales from just over £4 million [illegible] current £21 millioo.

Robinson describes the curr[illegible] year as quite hard with the rec[illegible]sion continuing.

However, he forecasts that [illegible] Hoskyns group will deliver sig[illegible]cantly improved trading prof[illegible] and sales volumes this year.

Events in the US, particul[illegible] the ownership struggle, have [illegible] effect on the company in the UK.

Hoskyns is a diversified supp[illegible] of software and consulting ex[illegible]pertise. Packages form a signi[illegible]cant part of the company's sa[illegible] and best known of these are pro[illegible]ably the MAS II IBM-based manu[illegible]facturing control system, and a complementary MAS M packag[illegible] for DEC machines.

According to Robinson, b[illegible] these products have had substan[illegible]tial new development effor[illegible] invested in them during the year.

Hoskyns will be introducing [illegible] new Australian package for the [illegible] insurance industry later this year and will offer further enhance[illegible]ments to the DEC Mumps-based Hotel accounting system it pro[illegible]vides to botels.

Employment at Hoskyns - which now has a staff of about [illegible] – is 15% up on the previous year.

Robinson foresees this tre[illegible] continuing and says that the com[illegible]pany will be taking on its [illegible] large number of graduates at the end of the year.

SHARES TABLE

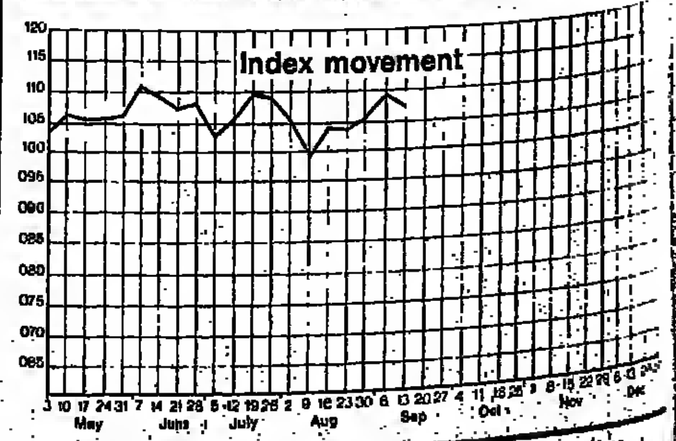
The shares table, which is specially compiled for Computer Weekly, [illegible] selected computer companies that reflect the state of the computer indus[illegible]

Date 18/9/82 Index 107.39 Chg -1[illegible]

Pence 1982 High	Pence 1982 Low	London Stock Exchange Stock	Pence Price	Pence C'ngs	$ 1982 High	$ 1982 Low	US Stock	$ Price	$ C'ge
206	131	ACT (App Com) (25p)	190	+ 2	29¼	18	Amdahl	[illegible]	[illegible]
197	155	BOC Int. (25p)	197	+ 2	20¾	11⅛	Apple Inc	[illegible]	[illegible]
31	15	B. Bov Kent (25p)	30½	–	28	21	Auto Data Pro	[illegible]	[illegible]
127	101	Chubb (20p)	110	−13	38	30¼	Burroughs	[illegible]	[illegible]
94	48	Cole Group (25p)	71	− 4	13¼	7¾	Comp Auto	[illegible]	[illegible]
303	233	C.A.S.E. (20p)	262	–	16½	11¼	Comp Sciences	[illegible]	[illegible]
730	445	De La Rue (25p)	480	−18	15½	8½	Comshare	[illegible]	[illegible]
350	235	Extel (25p)	330	− 5	35½	22	Control Data	[illegible]	[illegible]
480	312½	Ferranti (50p)	462	+ 2	35¼	21½	Cray Research	[illegible]	[illegible]
1154	797	GEC (25p)	1144	−12	83¼	20¾	Data General	[illegible]	[illegible]
94	33	ICL (25p)	61	–	48½	11¾	Datapoint	[illegible]	[illegible]
47	37	Kalamazoo (10p)	39	− 2	24½	18¼	Dataproducts	[illegible]	[illegible]
315	273	Kode Int (25p)	278	− 2	67½	62¼	Digital Equip	[illegible]	[illegible]
313	218	Mamec (10p)	310	− 3	34	19¾	Elec Data Sys	[illegible]	[illegible]
180	110	Muirhead (25p)	170	−10	6½	3½	Gen Automation	[illegible]	[illegible]
284	213	N'market (1981) (3.05)	277	–	36¾	22	Harris	[illegible]	[illegible]
820	570	Norsk Data	730	+ 5	84½	36¾	Hewlett-Packard	[illegible]	[illegible]
426	295	Office & Elect (25p)	425	+ 6	84	61½	Honeywell	[illegible]	[illegible]
540	445	Philips Lamp (fl 10)	530	+ 3	36¾	20¾	Intel	[illegible]	[illegible]
555	349	Plessey (50p)	555	–	72½	57	IBM	[illegible]	[illegible]
97	20	Quest Auto (10p)	53	− 7	58	35¼	Litton Ind	[illegible]	[illegible]
580	353	Racal Elect (25p)	580	+15	16¾	9¾	MDS (Mohawk D)	[illegible]	[illegible]
263	171	Rediffusion (25p)	255	− 8	28½	18	MSA (Mgmnt Sci)	[illegible]	[illegible]
486	398	Thorn-EMI (25p)	395	−20	18¼	7¾	Mngmnt Assist	[illegible]	[illegible]
91	74	UCAT (50p)	81	–	9¼	6¾	Modular	[illegible]	[illegible]
					79¾	50¾	Motorola	[illegible]	[illegible]
					24½	14	National Semi	[illegible]	[illegible]
		OTHER MARKETS*			67½	40½	NCR	[illegible]	[illegible]
					29¾	17¼	Perkin-Elmer	[illegible]	[illegible]
90	70	Bus Comp (10p)	70	− 2	27½	13¼	Prime	[illegible]	[illegible]
205	78	Consult (C&F) (10p)	165	−40	46¾	29¾	Raytheon	[illegible]	[illegible]
168	160	Int'europe Tech (20p)	163	+ 3	26¼	14	Signal	[illegible]	[illegible]
252	245	Io Tech (25p)	248	–	34	31	Sperry Corp	[illegible]	[illegible]
60	46	Knight (5p)	55	–	34½	15½	Storage Tech	[illegible]	[illegible]
164	113	Mica 33 (10p)	164	+ 4	29½	15¼	Tandem	[illegible]	[illegible]
170	85	MMW (£1)	115	+10½	35	23¼	Tandy	[illegible]	[illegible]
104	43	Rolfe & Nolan (10p)	104	–	100¾	70¾	Texas Inst	[illegible]	[illegible]
120	79	ScanData (10p)	100	− 3	27¼	12½	Tymshare	[illegible]	[illegible]
256	180	Sur Comp (10p)	250	− 4	39¾	25½	Wang Lab B	[illegible]	[illegible]
108	83	Trident Comp (10p)	83	–	11	7½	Wyly	[illegible]	[illegible]
112	78	Zygal Dyn (5p)	100	− 5					

The table shows the closing prices in London on Thursday and in America on Wednesday. The [illegible] Index is based on the prices of the UK companies in the table. Highs and Lows have been adjusted where necessary.

*Shares traded on the Unlisted Securities Market or under Rule 163(2)(a).



Company News is compiled by Kevin Cahill

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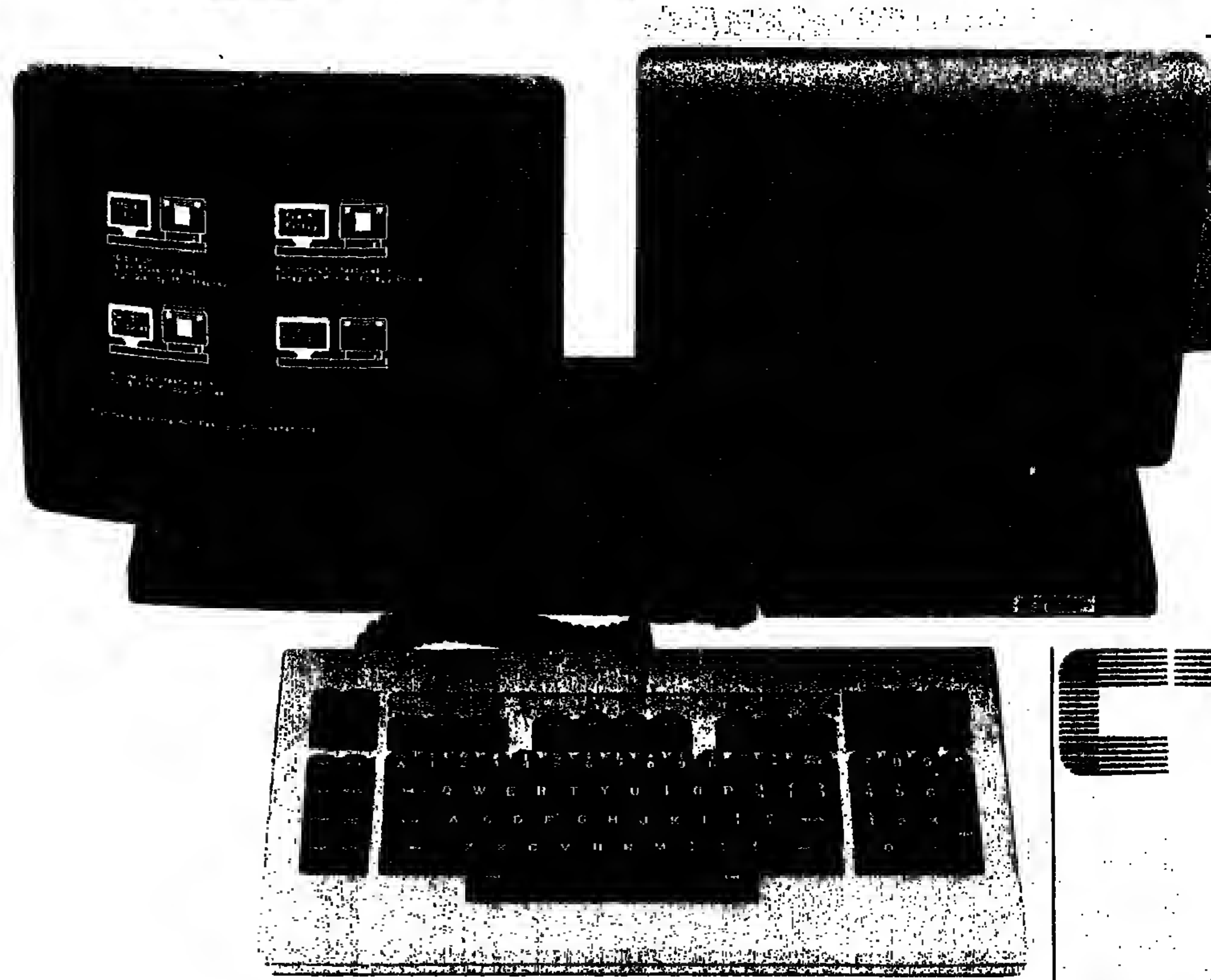
CW38

...With the CTL Workstation



Start with one, you could end up with a network

CTL Computer Technology Limited

an ITL Information Technology Company

PROFILE

Burroughs' top team look cool and confident

BURROUGHS' new UK managing director, Bob King, is o quiet, thoughtful man with the look of a successful manager nnd businessman – which, indeed, he is.

After the army and university he entered management as a trainee, and rose to top, heading s £600 million hotel and brewing company before joining Burroughs. He has no experience of the computer industry except as a user, and admits this freely.

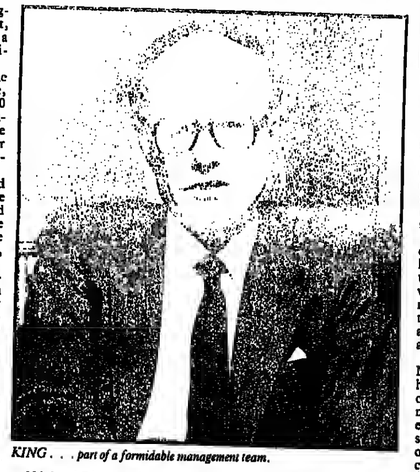
But his number two, David O'Brien, who was appointed to the newly created post of ssles and marketing director at about the same time that King joined the company, is a true industry man, and almost true Blue.

O'Brien is a former IBM marketing man. He worked both in the UK and IBM Europe, mainly in public sector marketing, experience whieh will come in very handy at Burroughs, given its publicly stated intention of attocking ICL's public sector base.

It insy seem strange for a successful businessman like King to leave a powerful position at an autonomous company like Scottish and Newcastle to manage the UK subsidiary of a US-owned computer company.

King admits that it seems strange at first, but points out that the computer industry is not the same as it was 10 years ago. He sees Burroughs UK as a fresh challenge after already reaching the top elsewhere.

He also views it as a stepping stone. With such a successful career to date King is unlikely to remain the local head of an overseas subsidiary, when there may be more interesting jobs in Europe or even Detroit, where Burroughs has its headquarters.



KING . . . part of a formidable management team.

Michael Blumenthal, Burroughs' chairman, has not been slow to appoint outsiders into key positions so far. About 80% of his top managers have come from outside the company, as he did.

King began his career at Metal Box, the UK packaging concern, where after several spells abroad he worked his way to the top. During one of his overseas assignments he gained a business management qualification from Harvard Business School. He reigned supreme at Scottish and Newcastle from 1977 until this year.

O'Brien brings a wide knowledge of the computer industry to Burroughs. In addiion to his 14 years with IBM, he was the managing director of Cray Research (UK), after which he held a senior position with Tektronix Europe for s brief period.

King and O'Brien make a formidable team with their business expertise, and industry knowledge and experience. They could be just what Burroughs needs to pull itself from the doldrums of years past.

PLATFORM

Big machines have a major role in the world of the micro

THE MAINFRAME is here to stoy – smaller physically, but with much more computing power. As communications systems and networks are developed, so the need for powerful central processing facilities will increase. Such facilities are essential if users are to make the best use of one of their most valuable resources – information.

A databank represents the accrued knowledge that a company has about every aspect of its activities and about the marketplace in which it operates. It is only with mainframe computer power that this key resource can be effectively accessed, integrated, manipulated and distributed.

How do I define a mainframe? Now that minicomputers often have the power that was formerly only associated with large machines, there is no longer any easily recognisable dividing line, so to define mainframe operations of the future I use the term macrocomputing. This embraces powerful processing and storage capability linked to an integrated network of nodes and terminals giving end users direct and easy access to all the data they need to use.

The demand for mainframes is growing, not at the explosive rate of the micro market, but steadily and progressively as users call for faster and easier access to information.

Small computing units offer individual users considerable localised power, and minicomputers and similar systems are used in many highly successful distributed applications, but in most cases a mainframe is needed to process and refine the data so that it can be used as an effective corporate tool.

In some instances it may appear that the distribution of computing to several sites within a company provides the best use of data processing; however, as a company develops to match its expanding markets, or grows by mergers and take-overs, this splintered approach can result in a completely uncoordinated information resource that can not provide accurate and up-to-date corporate financial and operational reports.

The central mainframe offers a unified and integrated system to handle management, marketing and operational information. There are applications where sheer number crunching capacity is essential, and where such operations would be impracticable without a powerful computer. Examples of these applications are weather forecasting and the exploration and exploitation of oil and gas resources. There are also large networks, either public or private, which may have thousands of users. This calls for fast and accurate handling of multiple and simultaneous accesses to massive database.

The introduction of "office automation" systems is another area where efficient implementation needs a powerful and flexible central processing capability. Electronic mail, word processing, personal files with restricted access or company files with wide and frequently changing access authority, general business administrative routines – all of these must be catered for and be available throughout a company.

Similar needs have to be met in the industrial and manufacturing sectors where CAD/CAM, production engineering and process control techniques can all be handled and made easily accessible by mainframe based systems.

The market, that is the users and potential users, is not yet fully aware of what is going to hit it in the next five years. Costs, not just salaries and wages, but space, furniture, facilities, fringe benefits and so on, could, over the next 10 years, be as much as £50,000 per person per year. This strengthens the argument for making the most effective use of every person employed and of the equipment installed.

There are now thousands of small business systems and micros in use, the cost of which can be justified at present. Soon there will be a different equation. Hardware, accommodation, air conditioning, etc, will be cheap, but staff will be expensive. Equipment will need to be used more effectively and it will not be economic to have staff whose job it is only to operate terminals – this task will be absorbed by end-user departments where the terminals will be used as a normal part of the day-to-day work.

Systems based on mainframes provide the answer. This is real distributed processing. This is how the information resource can be efficiently used. This is how the large investment in capital equipment can be justified and made to pay.

Bill Read

Read is vice-president and general manager of Sperry Univac UK.

DOWNTIME

The Crunchie gets kitted out

APART FROM an insidious reduction in weight, the Crunchie bar of my youth has changed little. Nor until recently had its mode of production.

But now Crunchie maker Cadbury has installed a Ferranti computer system to control the mixing, cooking and cooling of the famous bata. This process, I am told, is no easy matter, since chocolate, in the parlance of chemical engineers, is an ill-behaved fluid. It tends to clot and form bubbles, which can result in malformed Crunchies.

So while every precaution is of course taken to ensure that the Crunchie bar in the shop is of the usual impeccable quality, the occasional rogue slips through. Hence the familiar offer of a refund if fault is found.

The computer system should reduce this risk with its assistance in the mysterious and vital task of "cnrobing", which I was touched to discover is merely the simple matter of coating the bar in milk chocolate.

10 YEARS AGO

From Computer Weekly of September 21, 1972

The Post Office revealed its plans for an experimental packet switching service (EPSS) which it described as a joint venture between users, manufacturers and itself . . . Freelance Programmers, now better known as F International, celebrated its tenth anniversary . . . Compec 72 attracted 43 exhibitors abowing oo 60 stands . . . Some makers including ICL poured scorn oo IBM's trumpeting of its newly introduced virtual memory. They'd had the idea years ago.

Sord sheds its mystery

THE TONE of an advertising campaign is governed by the notoriety of the product, be it a computer or a contraceptive. If it is unknown, then the idea is to familiarise the public with it and make extravagant yet believable claims about it.

But if the product has a household reputation, then a subtler approach may be taken. The product need not be named, and the intellect of the advertisee can be appealed to.

The logic is that a person is more likely to buy a product if his brain has first been given a free jerk into motion.

Example: the large poster campaign for White Horse whisky in which a seven foot American basketball player was depicted beside a white horse. It was supposed to evoke an image of a Scotch and American Dry.

The danger of this type of campaign is that it falls flat if the public does not know what the hell it is all about.

I wondered at first if the Japanese manufacturer Sord had made this mistake when it ran an advertisement in a well-known weekly computer newspaper with a display bearing its name and the slogan:

"If you started to learn Basic last week – forget it."

What the hell is Sord talking about, I asked myself. This was surely an even more subtle kind of advertisement making yet greater demands of me. But I turned over the page and found the answer. There in a display of the same size was Sord's answer – its language Pips.

Clearly Sord is after all aware that Pips is not yet a household name.

Racal shares out its Harenet

I AM in a position to reveal a fascinating piece of recent data communications history.

The local area network launched earlier this month by Racal was developed under the leadership of one Peter Hare and was, not unreasonably, known during development as Harenet.

As the time approached when this wonder of modern technology was to be launched on an exacting world, thought was devoted to giving it an official title. Again not unreasonably, local opinion held that it could not possibly be effectively marketed under its development name – although who is to say it would not have acquired fame far beyond its field of application, even entering the language as a household term.

The decisionmakers went back to basics and, examining the purpose that the system was to serve, realised that it all rested on the fundamental principle of sharing data and peripherals between users.

So, by a simple stroke of the pen, a name was hit upon which should give profound satisfaction to insiders and outsiders alike – Sharenet.

Helpful Hint

Don't throw away those orange plastic spindle protectors from 200 megabyte disc drives – they make admirable frisbees.

Can you take Ken seriously?

PUNCH, the laughter magazine of the top-hatted class runs a column on Parliament by Simon Hoggart, who is fond of categorising the members of our legislature. MPs are either smart or flash, for example. Smart is Lord Carrington, flash is Michael Heseltine.

Another category is TABS, The Ability to Be taken Seriously. David Steel has it, Keith Joseph has lost it.

How does our information technology minister Kenneth Baker make out on these I wonder?

The first part is easy. Ken could never be called flash, so he must be smart, unless one entertains a third "scarecrow" category for Miebael Foot.

But on the question of TABS I equivocate. Ken is conscientious, usually quite well informed and is a personable fellow. Industry people see him as a splendid spokesman to the lay public, but the question is do they ask themselves: "I wonder what Ken thinks?"

BAKER . . . not flash, but smart.

Somehow I doubt it. Clearly TABS is a relative matter.

Painter Grant gets a rocket

LOGICA and British Aerospace are sponsoring leading international artist Keith Grant to record the European Ariadne rocket launch, to be held in French Guiana, for cultural posterity.

Why wasn't Logica's in-house artist Philip Hughes chosen?

The answer is to be found in Davy Jones' Locker, in which the first Ariadne rocket made an unscheduled landing. Hughes is only interested in success as reflected in his rather ethereal portfolio.

However it is the initial Ariadne flop which excites Grant. One can only speculate how he will depict the second launch in Guiana.

There is a hint in Grant's own words: "I see the wonderful order of the natural world complementing both philosophically and artistically the engineering perfection essential to the placing in orbit of a satellite." Here Grant is referring to the close proximity of a primeval jungle to the launching pad. I am sure he did not mean it to be facetious.

Chad

Liveware File by Don

ComputerWeekly
Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS
Thursday, September 23, 1982

Caution needed on DHSS plan

THE government's grandiose plans to computerise the welfare state will need to be closely monitored if they are not to founder on the shoals of overambition. After the DHSS came unstuck on the ill-fated and more modest Camelot project to automate supplementary and incapacity benefits, a word of caution is needed before computer hardware and software companies join the chase for the £700 million bonanza of orders that are promised.

The Camelot project, it will be remembered, was to spread 26 ICL 2950s over twelve regions, with terminals online for local offices. Serious problems with the design of the system surfaced in the summer of 1981, and it was officially scrapped at the beginning of this year.

The new plans for computerising the entire social security system, including unemployment benefits, envisage a network of 70 large computers, 30,000 terminals and 3,000 microcomputers. But perhaps recognising that the romantic acronym Camelot promised more than it could deliver, the latest proposals are called more simply "Social Security Operational Strategy".

Despite publishing 84 pages on the new scheme, the DHSS makes clear that it is a consultative document. "It is not set out in concrete as a definite plan as to what will happen over the next 10-15 years," said Tony Newton, Parliamentary Under-Secretary for Social Security.

It is in the interest of computer companies in the UK to make sure their voices are heard before the concrete mixers start churning. If the project goes ahead, some of these companies could be putting a sizeable portion of their resources at risk. And the success or failure of the project will be no small reflection on the British computer industry. Most of the recent buzzwords of technology are incorporated in the DHSS strategy; a haphazard implementation would have repercussions far beyond the now overburdened benefit offices.

The government has emphasised that it will be looking outside the Civil Service for help in developing the system. That should come as a welcome change to third party software companies, which have often felt they have been closed out of the government tendering process.

But it will also arouse the ire of the civil service trade unions, who are already seeing flashes of red at estimates of 25,000 job losses.

Under-Secretary Newton said "the long-term framework dwarfs the rest of Information Technology Year." That may be true. In the long term. But in the short term it is the duty of all the doubters and doomsayers to come out of the woodwork and give the strategy a searching review.

ICL's belief in itself

IF speculation that ICL is about to launch a £100 million rights issue is true, managing director Robb Wilmot and chairman Christophor Laidlaw have indeed performed something of the miracle that was expected of them. Just over a year ago the UK computer firm was reporting massive losses and making draconian cuts to its workforce. The market for ICL products was depressed. Wilmot and Laidlaw promised to put things right, but it would all take time.

Now, Wilmot says he is convinced that their predictions of profits and sales will come true. The company has not had to use any of the government's £150 million in loan gusrantees. And a rights issue would confirm that the company has enough belief in its own future to brave the scrutiny of the financial markets.

Contrast ICL's position with that of France's state-controlled computer company, CII-Honeywell Bull. France has been making headway in formulating a national computer strategy, and CII-HB has been singled out as central to those plans. But the company is in dire financial straits.

Whether Stern can do for CII-HB what Wilmot and Laidlaw have done for ICL is yet to be seen. But certainly ICL's experience in the past few years once again highlights how important a strong and determined management is to a company's success.

1984 and all that

THIS week's example of the strange things people say about computers was sent in by B. Twissell of Coventry, who wins £5.

In the latter half of the 20th century, the landscape has been squeezed into a growing uniformity. Viewed from above, by approaching Venusians say, Planet Earth may well appear to have been set in order by computer and the little green men will probably wonder why they bothered to come all this way.

Sunday Times Magazine.

LETTERS

Darkcrest and Digital Equipment

I READ with interest your article (CW, September 9) relating to litigation between Darkcrest and DEC, whose processors we use in products we supply. There are a few discrepancies I feel need rectifying:

1. With regard to "substantial" damages against Darkcrest, we have not received any direct notification of any claim from DEC.
2. We have just completed our second year, not first year as indicated.
3. Darkcrest is seeking £10,000,000 exemplary damages from DEC, partly on the grounds that its original application to the High Court was not "full and frank", as is normally required for an Anton Pillar Order.
4. We have given no undertakings to the court that go above and beyond normal English law.
5. DEC has offered to settle – we have turned them down on the grounds of inadequate compensation for Darkcrest based upon what we regard as the inappropriate nature of the action DEC has taken against us.
6. Darkcrest consists of 14 staff, not six; our total turnover to date is in excess of £1,500,000 and our balance sheet surplus is in excess of £150,000.
7. Our product range incorporates the LSI-11, all PDP-11 models and soon the VAX-11, not just the one processor you noted. Also, our customers variously use four different DEC operating systems and Unix (which has been the most popular by far).
8. We have never purchased a DEC processor from a supplier in the US.

Regarding details of the litigation, I feel it is inappropriate to have a "trial by publicity" situation. We must all wait for the English courts to conclude this matter.

Meanwhile, it is worth noting that the result could well have worldwide implications relating to the resale of computer systems with the prime manufacturer's software. It appears DEC is saying we have no right to do this even when we have purchased and paid for a licence to begin with.

NICK BRACKENBURY
Sales director
Darkcrest
Londoo SE1.

Made in England

PAUL Gretton-Watson's excellent report on 999 systems (CW, September 2), contained one inference which is often made, in the phrase "a sophisticated US-developed Soundex phonetic searching technique". The implication being that anything "US" must be better.

I designed the Metropolitan Police gazetteer database and search program and coded the program. The basic Soundex codes were just published in the early 1900s, long before the advent of electronic computers.

The sophistications for the police system were developed by myself, a genuine Englishman!

P. R. HARRISON
Harrison & Crips
Stonehouse, Glos.

Focusing on DBMS

ON RETURNING from holiday I read with interest your recent Software Month feature (CW, August 12) and noted an article by David Ferris on DBMS.

This article referred to a product Focus which is owned by Information Builders Inc and marketed in the UK by my company.

The impression given by the article regarding Focus is so misleading that I believe it is necessary to re-state the facilities offered by Focus to users. These include:

1. A complete report generator and query language.
2. A comprehensive graphics, statistics and financial modelling capability.
3. The ability to read data from Focus D/Bs (see below) as well as directly from other D/Bs such as IMS, 1DMS, Total and Adabas and other file types including VSAM, QSAM and KSAM.
4. Focus D/Bs are multipath hierarchies that can build shared and therefore relational-like structures. These Focus files can be combined with other D/B structures and file types in almost unlimited ways to create new "virtual" files and structures that can then be used for reporting, graphics etc.
5. Data entry and file maintenance is provided by conventional transaction processing or a full screen based data entry language supporting multiple transaction types and multiple simultaneous user updates.

P. R. SCAWEN
Managing director
Information Builders (UK)
Wembley, Middx.

Unix III licence

YOU stated (CW, August 12) that CDS is the only UK company to take a Unix licence. This is not true. We too have the Unix System III licence and have been using Unix extensively on our DEC VAX-11/750 since April.

We have been converting Quantum (our survey processing package) from Prime Fortran to the language C, and are now ahead of target.

First delivery of a VAX-11/750 with operating system and application package will take place during October. We are now installing Quantum on some of the larger 68000-based micros operating under Unix.

JOHN SANGLIER
Systems director
Quantime
London WC1.

Shout of alarm

A SMALL shout of alarm at the apparent total lack of critical criteria as applied to articles printed in CW.

1. Two recent examples:
1. The utter gibberish attributed to one Arnold Arnold (CW, September 9).
2. The impossible claims made by B. Khan concerning supposedly revolutionary new storage technology.

The former case is just funny, the latter shows a worrying credulity by people (such as yourself) who are supposed to have some knowledge of computer science (cf H. C. Anderson – The King's New Clothes).

T. CLARK
London W5.

Programmers aren't obsolete

THERE are an increasing number of system development and program production aids in-professionalising the programmer's job, and requiring extra effort and knowledge to achieve the same ends as before.

I am not advocating a return to all assembler programming, but surely a professional is someone who can confidently say that he understands his craft and field of specialisation well enough to produce his product to the required standards.

Some of the systems currently in use require such a terrific background of knowledge and experience that it is almost impossible to familiarise oneself with the whole system or even all examples of its use.

To take an IBM system as an example, a programmer might have to learn Cobol, JCL, TSO, SPF, DII, CICS, IMS, MVS, OS, DOS, Csort, Easytricve, Filetab, etc, ad infinitum.

Until one understands all these subjects completely, one cannot be sure of being able to use any one subject optimally in the solution of a problem.

Some systems are transparent to the user (like a black box) and allow him to concentrate on solving the application problem rather than solving the implementation problems.

A lot of the available aids have a lot of unnecessary options but lack some very basic ones. I think Cobol would be vastly improved (and fairly useful) if it had "BEGIN – END" statements and compound parameter facility, i.e. being able to access array element array(x + y), and in the PERFORM UNTIL, having condition until "x+y = n or w(x,y) gi z".

MARTIN BANCROFT
Crumpsall, Manchester 8.

It's hard to get into computers

ONE can only sympathise with Mr Hill's complaint about the reception given to TOPS graduates (CW, August 26). This company receives about one application per month throughout the year from all over the UK and all letters are answered with advice given.

Entry to the computing profession has always been difficult, at least in the 16 years since I entered it. A major factor in this situation is the ready mobility of trainees once the initial and costly training has been received from a larger company. Various remedies have been proposed to overcome the loss of computing staff, and there has been some success, but this is a major reason for a company's reluctance to recruit trainees instead of experienced staff.

The mainframe boom has long since finished, and very few such installations are set up each year. The minicomputer boom continues, and is only just showing some signs of plateauing out. By comparison, the microprocessor boom is at its beginning, and the end of their potential uses cannot yet be foreseen.

There are now a large number of companies entering microprocessor-based applications. The potential applicant is recommended to seek out and approach such companies with the proposal that they should make the recruit responsible for the microprocessor, its software and its programming. It may very well be necessary for the applicant to undertake other work in the company.

Skill with microprocessors is a distinct speciality in its own right. Potentially it is at least as valuable as skill with large mainframe computers.

SYDNEY BEECH
Seasnock Computer Services
Sevenoaks, Kent.

Meaning of Pascal

EMRYS Jones's masterly explication of the true meaning of Basic (CW, September 9) prompts me to remind those of your readers who may have forgotten that Pascal, contrary to rumours put about by some of its devotees, is in fact an acronym for Puritanical Academics' Strictly Controlled Authoritarian Language.

A. C. KILGOUR
Computing Science Dept
University of Glasgow.

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WORKPLACE

Site design needs more care, says report

THE computer room is now the brains behind many organisations, and as a result is surrounded by a solid skull of internal security measures. Yet it is often insufficiently protected against hazards that strike from within, as followers of our Disaster cnlumns will know.

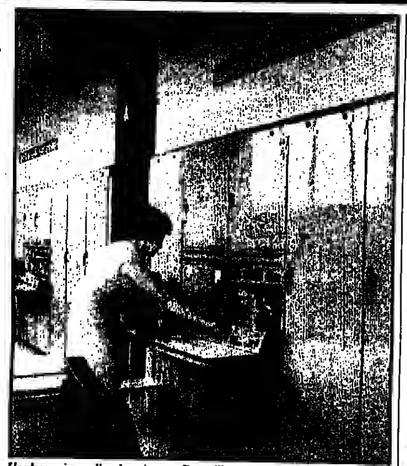
Many computer rooms are just knocked together by joining a few existing rooms and fitting eelling ducts for air conditioning. They are often cramped, badly lit and noisy.

A report* by the US Datapro Research Corporation campaigns for more care in designing computer rooms.

The study mentions a factor often forgotten by first time computer users, electromagnetic interference caused by static electricity. Hardware is particularly sensitive tu this, and it can cause bits of data to vanish, or a disc head to crash. Static can be minimised, says Datapro, by using laminated fibre-resin material, or a static-treated carpet for the floor.

Hardware us also sensitive to fluctustions of temperature and humidity, and these should be carefully planned. Datapro recommends measuring equipment to ensure that the equipment is shut down when temperature or humidity move nutside the allowed range.

Another important consideration when designing a computer room is the power supply. Continuity has to be ensured.



Hordware is smaller than it was. But still computer room architects foil to make provision for new equipment.

The cheapest method is the filter, which consists of a configuration of inductors and capacitors. Filters cater for random fluctuation of power, but are not good in the event of prolonged interruptions.

A popular, but more expensive method of minimising risk of power crashes is the motor-generator, which uses the normal supply to drive a motor that generates a cleaner supply.

Equally important are ergonomic considerations such as space, lighting snd access. Most computer rooms are too small becsuse no allowance was made for expansion and sdoption of peripherals.

A related problem is that of noise. Noise dampening materials can be used in construction of walls and ceilings, and careful positioning of hardware and air conditioning blowers will help further.

The report is admirable as a complete catalogue of problems fscing the architect of a computer room, but it less helpful when it comes to recommending solutions. Cost, efficiency and luxury have to be balanced against safety, and not all the answers suggested by Datapro are compatible.

*All About Computer Room Environment. Datapro Services SA, CH-1164 Buchillon, Switzerland. Tel: 021 763731.

Sharp technique nets the worthwhile jobs

THE data processing industry is notorious for its fast job turnsround, and an important weapon for every young programmer or operator is good self-publicity.

Every prospective job is won or lost less on sbility than on the way skills are promoted. Attention to a few simple details can greatly enhance the chances of landing plum appointments, and so Workplace offers this compendium.

An often neglected part nf the job-getting process is the curriculum vitae, which is instrumental in obtaining an interview. A good CV tells no lies, but should give the truth plenty of polish.

It should be neatly typed, and should list details of each past job, as well as individual skills gained such as computer languages, operating systems and machine types. It might also be wise to include details of programs written, and individual projects particisated in.

But no job application is complete without the personal touch of a handwritten letter exaggerating, as far as modesty permits of course, those parts of the CV relevant to the job in question.

First impressions are important and s smart appearanee, though less vital than it was, can still count. I once turned up for an interview wearing a big blue trenchcost, intending to take it off before being shown up m my prospective employer. But instead he met me at the statinn, and at first-glance, I could tell he had written me off. The rest of the interviow was an embarrassing formaliiy.

You may be invited to sit an aptitude test sometime during the interview. These have rightly fallen out of vogue with psychologists and are less common than they were, but it is well to be prepared.

They do not vary much, usually involving the derivation of the next number, letter or geometric shape in a series. They have little to do with skill in programming or analysis since they only allow for one solution, while real life often allows several answers.

Where aptitude tests are given, they are normally only used as evidence of ability in borderline cases, the face-to-face interview being the clincher.

It is doubtful whether the interview is really much use in selecting the best person for a job. I was once told by an experienced interviewer that its only worth is in finding out how well motivated someone is.

Interview technique improves with practice, which is one good reason for making many applications. It is important to remember that the interview is a two-day affair, and that the prospective employer is just as much on trial as the applicant. An employer is rarely put off by intelligent questions about his organisation and the job on offer.

A good ear for the tone of the interview can nften reap the corn. Most interviewers have their own idiosyncrasies and pet likes and dislikes that an asture applicant will pander to.

At one interview I was asked if I approved of the use of flnwcharts in program development. "They are a complete waste of time," I replied. Months later st an office party this interviewer was instilled with a little Dutch Impropriety and he confided that this brash utterance got me the job. Yet the tone of his question had given away the answer he had wsanted.

It is surprising how many interviews for technical jobs stick to platitudes and generslities. Nevertheless technical questions will sometimes be asked and it is well to be wound up for them. The best way to do this is to read an elementary book on the subject likely to be covered.

For example, if the job is for a Cobol programmer, a quick read of an elementary Cobol manual focuses the mind on the key points and prepares it for the sort of basic question likely to crop up.

The final burdle to cross is the reference, something more out of the applicant's control. Really evil references are rarely given – referees use their own Masonic language to communicate the deficiencies of the candidate.

The best way to obtain good refereoes is always to be hard-working, punctual, likeable and honest. This is clearly impossible, but the applicant does at least have the choice of referee and can avoid people likely to libel him.

The ideal stitude to an interview is captured in the aphorism: tell the truth and nothing but the truth, but not the whole truth. Sounds like the stitude of a cynic – but it is no more than a reality of life.

TRAINING DATES FOR YOUR DIARY

UNIX* and C

As consultants to the training department of the world's largest user of UNIX we are offering the following courses:-

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2. C PROGRAMMING LANGUAGE – LONDON 22-26 NOVEMBER
3. UNIX OPERATING SYSTEM (5 day workshop) – LONDON 29 NOV-3 DEC

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5. REVIEWS, WALKTHROUGHS AND INSPECTIONS – LONDON 3-4 NOVEMBER
6. STRUCTURED ANALYSIS WORKSHOP – LONDON 8-12 NOVEMBER
7. STRUCTURED DESIGN/PROGRAMMING WORKSHOP – LONDON 15-19 NOVEMBER

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It's a real time occupation, keeping systems software fully operational

The third part of our series on chonging job functions and titles, by Les King.

"SYSTEMS programming ain't what it used to be."

That's according to my friend Jack, who should know because he's been doing it, man and boy, for the last 13 years.

So, from the many career possibilities available in computing, what surt nf jnb is it that keeps an intelligent and skilled DP professional (I promised him a good write-up) interested for so long?

Well, the most important part of the job involves very little programming and might better be termed "systems administrator".

The major task is, in essence, to keep the computer systems software fully operational. This has become increasingly important in recent years because of the average company's growing commitment to computing as an essential business tonl.

Keeping the system up and running is, in every sense, a real time job requiring the ability to atlek with a problem until it is solved, coupled with a minutely detailed knowledge of both hardware and software.

When he is not sitting up all night holding the system together, the systems programmer spends s great deal of time installing and maintalning new system software.

Despite the mystique surrounding the systems programming function, this is not a terribly difficult process as most new software releases arrive, from the manufacturer nr whoever, with s ready-made job stream capable nf producing s working system with very little intervention.

The systems programmer will have some work to do, such as defining the configuration, allocating partition sizes and ensuring all-round compatibility with the existing software.

System tuning is an interesting part of the job, although the falling cost of hardware makes it increasingly feasible to purchasc more memory and equipment rather than spend valuable time maximising the use of limited systems resources.

However, effective imprnvements in performance can be achieved by bosic techniques such as the nrganisation of program libraries with the most commonly used routines together (tn minimise disc head movement), the holding of frequently used file indexes in memory, and the intelligent scheduling of jnb streams to avoid simultaneous use of the same systems resources.

It should be pointed out here that precise jnb responsibilides vary from company to company and some of these tasks may be carried out by senior operators or by the database administrator, a job function becoming increasingly popular in its own right.

Outside the area of day-to-day nperatinns, the systems programmer provides general technical advicc and support to system development personnel.

Perhaps the most interesting part of the job is the on-going evalustion of new software. Deciding which products are useful and effectively complement a company's computing strategy is one nf the more satisfying tasks of the systems programmer.

So what sort of person becomes a systems programmer?

Surprisiugly, very few people move from applications programming into systems programming. New entrants are usually technically biased graduates, or bright operators or, quite frequently, people with a technical background in other fields such as science or engineering.

It would be nice to suggest that a career in systems programming held considerable prospects in the fields of operatiuon or technical management. However, because systems programming teams tend tn be fairly small, career progression in the technical area is limited.

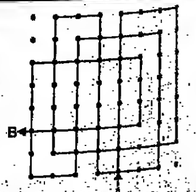
Workplace is compiled by Philip Hunter and Andrew Thomas.

PUZZLER

THIS diagram shows the original *answer* to s 19th century puzzle, where the task is:

"Travel point-by-point from A to B by the longest possible route, making only 15 right-angle turns and visiting as many points as you can. No part of the path is to be traversed twice (except where a point itself is visited again, but from a different direction)."

The answer covers 76 unit-lengths from A to B, but fails to reach three of the points. Modern analysis has now revealed another 76 unit-length path from A to B, with 15 turns, that does exactly the same job but leaves only one point un-visited.



Can you find this optimum route before turning to page 25 for the solution?

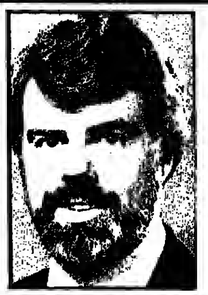
PEOPLE

Westinghouse makes UK manager president

WESTINGHOUSE Mansgement Systems has promoted its former UK manager David Hazlewood to president. He succeeds Eric Lutaud.

Hazlewood has been at Westinghouse for nine years. He joined the company as area manager when it began operating in the UK. The company has 1,000 unit production sites in the UK and sbout 5,000 in Europe. Activities in Europe include major operations in France and Germany and products are marketed extensively in the Middle East.

Hazlewood will be based in the UK, but will spend a good deal of time at the Westinghouse headquarters in Paris.



■ **Dtedre McAlpin** (left) has been appointed branch manager at I.P. Sharp's Dublin branch. She bas an sccountacy background and joined the company in Londnn in 1976. Her main aim is to introduce the company's timesharing service to the large corporadons that have set up shop in Ireland.

■ Solicitor **Peter Atkin** has been appointed as a main board director at United Leasing. He joined the company in 1978 and became a member of its management committee in 1981.

■ The communications and control division of Philips Business Systems has appointed **Bernard Harris** sales executive for internal communications.

■ Prime Computer has appointed **Bill Griffiths** (above) as its new district mansger, responsible for non-government business in the South of England. He joined the company as a sales executive four and a half years ago, and went on to become branch manager for the North of England, and later UK marketing program manager.

■ **David Sheppard** has joined the new Manchester office of Computer Associates as salesman, marking s change in direction for Sheppard who was previously systems engineer with the company.

■ Educstion Secretary Sir Keith Joseph has formed a visiting committee to advise him on the Open University. Representing the computer business is Dorothy Nelson, who is director of Hatfield Polytechnic's computer centre and a member of the Computer Board.

■ Two newcomers have joined Videcom. **Mike Mullany** becomes general manager of the newly-formed Videcom Travel Systems. He was previnusly airline systems sales mansger in the marketing division of Cable and Wireless. **Chris Albers**, formerly business development manager with Chiltern Computer Business Systems, is to set up a Videcom distributor network for the company's Apollo desktop computer.

■ Two consultants have joined Armitage Norton Consultsnts. They are **Robert Cusworth**, who was formerly with MLH Consulting Group; and **Trevor French**, who was previously with Peat, Marwick, Mitchell & Co.

■ Computer systems and software house Moffat Rose has sppointed **John Collaro** as head of its Compass Rose marketing division. He was previously marketing director at Leasco.

■ **Alex Kachellek**, formerly with Sperry Gyroscope, hss been appointed production manager at Case.

■ **Donald Davidson** has been appointed mansging director at Itel Software Systems. He joined the company in 1969 as controller/accounting manager and was latterly president of Itel International in London.

■ Former managing director of travel firm Cox and Kings, **Jonathnn Chapple** (below), has joined Hertz Europe as European director of management systems and services. Chapple has written two books on systems and dats processing and was formerly vice-chairman of the Travicom Users' Association.

■ Two new directors have been appointed at H&RD (Computing Services), the Birmingham-based systems house. Both **Steve Rawlinsnn** and **John Smith** have been with the company for more than three years and between them have over 25 years' data processing experience.

■ Two salesmen have joined BASF Computers. **Richard Hibbert**, previously with NCR, will cover sales territory in the Nnrth West, Wales and Northern Ireland. **Jeremy Lassen**, who wilt sell BASF producis to OEMs, was formerly a reginnal sales manager for Vermont Research.

■ Centronics Data Computer has appoioted **Alan Pickering** as its manager of international accounts. He was previously with the distributed data processing division of Philips where he was responsible for sales and sccount management to multinationals, energy and oil related industries.

■ **Paul Grace** has been appointed financial director at Atari Internadonal UK. He was previously with Rank Xerox where he was financial planning manager.

■ **Roland Lewis** has been appoioted technical development manager at Micro Scope. He was formerly with Spring Grove Services, where he was a project leader.

DIARY

SEPTEMBER 28

The relevance of Ads – a one-day meeting. BCS ACM Chapter. City University. Details Dr Jim Woodcock, GEC Hirst Research Centre, Wembley, Middx. Tel: 01-904 1262 ext 487.

How the error handler works. 6CS PL/Group. 3rd Flcor, 15-19 Kingsway, Londoo WC2.

S6PTEMBER 29-30

Computer alds to plant operation. Cooferenee. 6CS Process Control Group/IMC Teeside branch. Royal Station Hotel, York. Details 6CS.

OCTOBER 5

The impact of the new technology on management. Speaker David Fairbairn, director of NCC. IDPM Scottish branch-British Institute of Management. Merchants House, 7 West George Street, Glasgow.

The Talisman Stock Exchange System. 6CS North West London Branch. Railway Hotel, Greenford, Middx. 7.45.

OCTOBER 6

Impact of new technology on management – challenges and implications of IT for the workplace. Speaker Ted Cluff, secretary-general IDPM. IDPM Scottish branch – Institute of Management. Lecture Theatre, College of Commerce, Aberdeen.

Introduction to Forth seminar. RCS Microsystems. Osterley Comfort Inn, Isleworth, Middx. Reservations 01-898 3775.

The future role of operations. IDPM Birmingham branch. New Imperial Hotel, Temple Street, Birmingham. 7.30.

Mighty micro and super graphics. IDPM Centrsl London branch. Altergo, Imperial House, 15-19 Kingsway, London WC2. 6.00.

Productivity in application development. IDPM Sussex branch. Town Hall, Market Square, Horsham. 7.00.

OCTOBER 12

Visit to Thames Valley Police Computer Centre. tDPM West London to Oxford brsnch. Thames Valley Polire Computing Centre, Kidlington, Oxford.

OCTOBER 14

Rigorous software engineering. BCS Software Engineering Group. Large Chemistry Theatre, Birckbeck College, Malet Street, London. 10.30.

OCTOBER 19

Visit to London Air Traffic Control Centre. BCS North West Londnn Branch. Numbers limited. Contact Frank Rich on 01-864 5311 ext 2359 to reserve place.

OCTOBER 21

Computer privscy and a data protection law. Speaker Pat Hewitt, NCCL. BCS London Branch. Charing Cross Hotel, The Strand, London. 6.00.

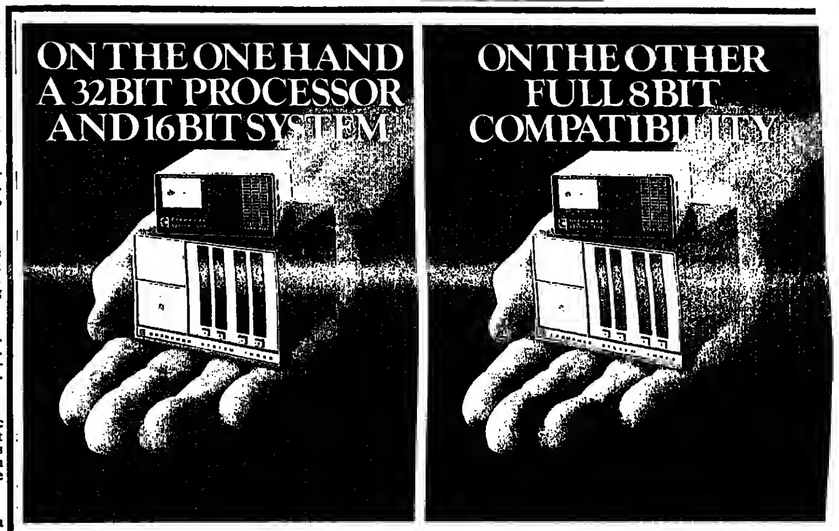
CONFERENCES

■ A seminar alming tn sssist managers and planners in dealing with data processing is being held st Loodoo's Clifton Ford Hotel from October 18-20. Called Advanced EDP Management Strategies, it is organised by Frost and Sullivan and will examine all levels of data processing organisation and vlable measures of sctual performance. Emphasis is placed upon exploring proven management ideas and approaches at sdvanced level. Details oo 01-486 8377.

■ THE Cambridge CADCAM Practical Experience Centre is running the first of its newly-devised workshops for engineers and managers, starting October 11. They are run by engineers for engineers, and sim to provide objective advice to familiarise industry with the techniques and benefits of CADCAM. The workshops are based on real life design and manufacturing jobs borrowed from some of the centre's clients. Details (0223) 63125.

■ Institutions that provide capital for small businesses are likely to receive large numbers of business plans from entrepreneurs seeking capital. Most plans, say Oyez International, are so poorly prepared that they stand little chance of attracting funds. The company aims to rectify this unhappy state of affairs with s seminar scheduled for October 15 to be held at the Heathrow Hntel. Called An Effective Business Plan for the Smaller High Technology Company, it aims to provide just that. Fee is £125 + VAT. Details and reservadons 01-236 4080.

■ The Computer Automation Show will be held at the Waldorf Hotel in London on October 28. Organised by the United Kingdom CAMAC Association, it will include exhibitions and demonstrations by various CAMAC equipment manufacturers including data collection and control, communications capability and mieroprocessnr-based systems. There will also be s series of presentations on various related subjects, including fast programmable controllers, IEE 488 interfaces, software and new measurement and control standards and trends. In addition to the above, the association will also be conducting a series of introductory workshops covering the principles of standards and operations. Admission is free. Details on (0606) 44321.



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The new software library is comprehensive. There is a 16 Bit version of the proven Cromix Multiuser operating system, (now it will support up to 16 users or tasks). There is a new Fortran 77, designed for creating larger programs in a science/engineering/ research environment, and COBOL, PASCAL and 'C', a Structured BASIC, and a 68000 Assembler.

Overall the Cromemco 16 Bit Systems extend the existing boundaries of microcomputer application. In particular, they offer the Scientist and Engineer the opportunity to dramatically reduce the cost of performing the complex mathematical functions required in multi dimensional design, simulation and analytic processes.

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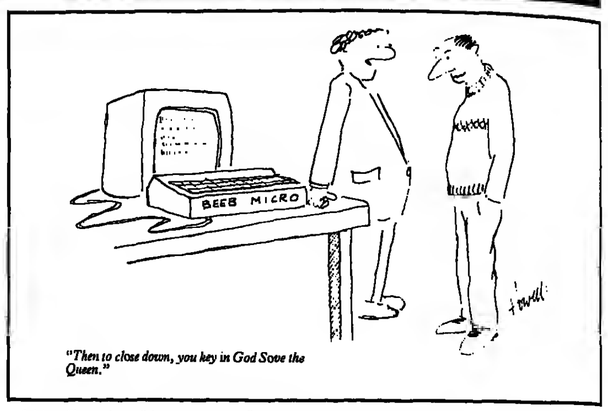
COMPUTER LITERACY

Jeff Taylor snipes at the BBC Computer Programme

Beeb maps a pilgrim's progress towards materialism



"Then to close down, you key in God Save the Queen."

THE BBC television series The Computer Programme which made its debut this past spring, will be re-broadcast from mid-October, creating interest for a new series to run from January.

Although its title may prophesy the focus of its January sequel, the BBC Computer Programme is more than just a programme about the BBC computer. It is the public face and least criticised vanguard of the BBC Computer Literacy Project, and the world's first major televisioo experiment io computer literacy. As such, it deserves more careful critical attention than it has received.

Critics are unhappy with the flawless sunrise image of the technology and our future with it which they claim the show presents. The image is seen to arise from its factual content, that is, its obsession with problem-free applications and reluctance to deal with negative consequences.

Yet to cite this alleged fault only or mostly as content-based is to disregard McLuhan's dictum that the medium is the message. Camera usage, set design, music, all help to shape the TV message, but here the main medium is twofold: a) the roles of the presenters (their relationships to the technology, to each other and to the viewer), and b) the language which expresses these, since relationships are defined and continually reinforced by the way language is used in the series. It is at least as much *how* they talk about IT that conveya an image of this technology as *what* the presenters talk about.

To quote the BBC: "The style of the series is modelled on *Pilgrim's Progress*, with Chris Serle as the seeker after enlightenment and Ian McNaught-Davis ('Mac') as his guide." Gill Nevill ia always away on locatioo to present the relevant real-world application, and occasionally and briefly, social consequences expert Rex Malik comments on film.

Serle clarifies his aod the viewer's role at the outset when he describes "you and me" as "ordinary people", "non-experts", "the uninitiated" to whom "the world of computers is an unfriendly juogle". Unlike Bunyan's Christian however, this pilgrim progresses *towards* materialism.

The opening scene finds Serle shopping in the computing section of a hi-teeb store ("I'd like to buy a computer") and so too the viewer is defined as a potential consumer of computers. The scene ends with a close-up of the BBC machine, the advised choice, the "computer that goes with" the show.

The role of Mac is also shown early: "a member of a priesthood" who understanda both Stonehenge, "possibly the first silicon chip", as well as tbe "metal megaliths" of today.

As guide, expert and priest, his role is fairly oarrow, fact dispenser. Mac is the macho half of the duo, not afraid to get mucky on factory floor or on the land, or to play a chubby cowboy to make a poiot: "a climber of mountain peaks" and the London Planetarium, who is hooked on military analogies.

As timid novice yet eager devotee, Serle asks questions. As confident expert and priest, Mac supplies answers. These answers often begin with a padding phrase such as "of course", after which Serle, nodding throughout, responds in a hushed, reverent tone: "Right." ("What gear do I need, 'cause there's a terrifically wide range of choice?" "Well, of course you need . . . and that's the equipment you'd need." "Right.")

Both "of course" and "right" serve to punctuate tbe wisdom of Mac'a words. The etiquette of novice and expert, or devotee and priest, is clearly observed and exemplified: Serle (aod vicarlously the viewer) may questioo Mac in his thirst for knowledge, but may oever question Mac'a authority.

Whcn not in his reverent or inquisitive mode, Serle seems in a state of perpetual astoniahment, his exclamations reading like a thesaurus of hyperbole: "Wow!", "Wonderful!", "Absolutely terrific!", "As quickly as that!", "Very good – it works!" "We can actually do that!?"; and on the cost of silicon chips, "Is that all!?".

These incantations in the language of advertising all describe the technology and its positive applications. Serle is never in astoonishment mode when confronting the few negative social isaues the series manages to raise, such as the need for data protection laws. Nor is Serle allowed to interact with social consequences expert Malik as he does with Msc, and thia too discourages the viewer from being provoked to interact with these issues.

Serle raises these when introducing Malik, in his evangelical or conversion mode. As an initiate and devotee, it is one of his prime duties to spread the gospel, even if it means occasionally paying lipservice to negative consequences. Io this role Serle attempts to convert the viewer and display his own conversion at the same time, which is complete by the final programme when he is no longer inquisitive nor astonished, but a fully pious devotee, reverently testifying faith in "the perfect slave", the computer.

A sign is revealed early on that Serle's conversion is imminent when the obligatory ritual of programming the BBC computer finally paya off. The program works, and Serle achieves a kind of religious ecstasy, which he and Mac describe as "a very good warm feeling", a sense of gratification and pleasure".

Otber experts claim that repeated intoxicstion through programming and gaming can lead to "computer addiction", but the only warning the show's experts give is not out of concern for the welfare of users, but for the image of computing: when Mac says it is "degrading" to see computers used just for "silly games", we realise his fear is one shared by all priests, blasphemy.

"Our reporter" and token woman Gill Nevill is constrained by a tight script which casts her as an acolyte or minor angel, a presenter of positive applications, a bearer of good tidings. She is not allowed to express authoritative opinions or pose provocative questions about, for instance, the greater unemployment women are likely to experience than men via automation, or the exploitation of existing female labour in the chip industry.

As expert on the consequences of computers to society, in a world where technology, not society, is "in control" (as both Mac and Serle insist), Rex Malik plays a lesser role than hi-tech priest Mac, operating as a conveniently oysey seer.

Serle asks "Where does he (Malik) think it (IT) is leading us?" Malik stops maniacally pecking away at his pre-electric typewriter and blandly predicts: "It's leading ua to major change."

Malik, who resembles a thick-spectacled Peter Lorre, speaks in bullet-spitting staccato sentences, like a Chandler or Hammett tough guy telling it like it is: "The question is not 'Do computers have social consequences?'. It is 'What are the social consequences of computers? What are the issues that are raised?' "

But does it take an expert to ask such simplistic questions? Only if he can make them sound more expert than they really are. That is the answer.

By the final programme this answer has been confirmed. Although Serle (in conversion mode) tries to make ua believe that the series "has looked at how computers are going to affect virtually every aspect of our day-to-day lives", it is almost exclusively the benign aspects that have been explored.

One would like to have seen the presenters meet in person on equal terms at the end of each show to discuss candidly the social consequences raised, with experts being seen to differ, and with novices shown to be brave enough to question intimidating expertise.

Is The Computer Programme beyond redemption? Or can in style be converted to portraying a more realistic image of the technology through the next series? If ao, it will take more than careful attention to balancing content.

If the present content conveys an idealised image of this technology, then it is the language that tries to testify it is divine, in a "world of information science" in which "the perfect slave" plays God.

O ye of little faith: ARISE!

Jeff Taylor is a researcher in the science department of the University of London Institute of Education.

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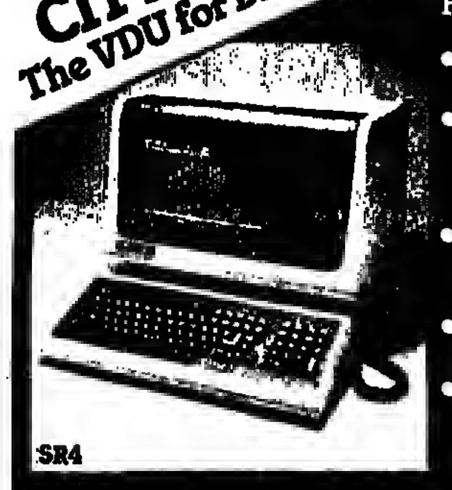

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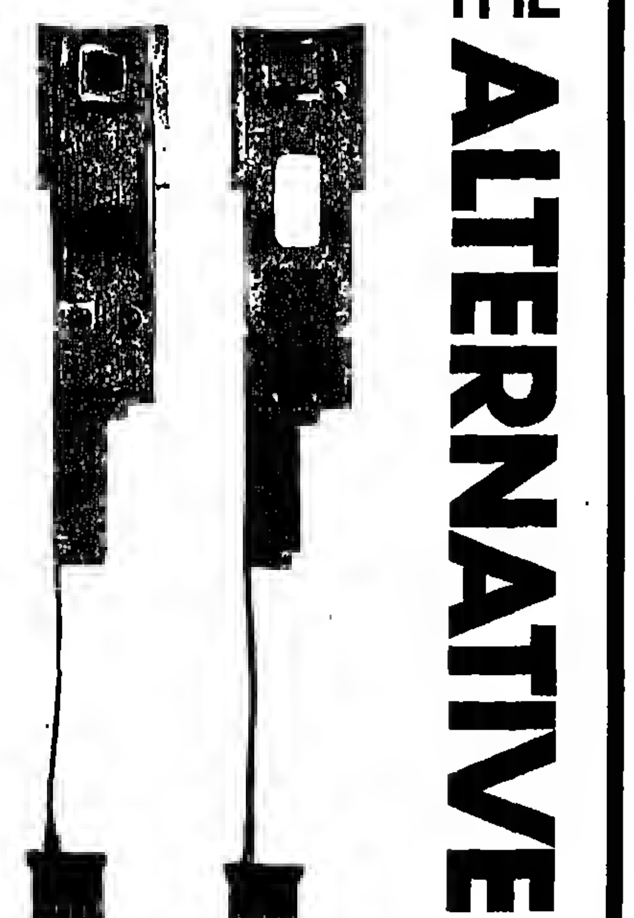

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Further information from The Registrar, The University of Manchester Institute of Science and Technology, PO Box 88, Manchester M60 1QD. Telephone 061-236 3311 extn 27[..]. Closing date for registration 3rd December.

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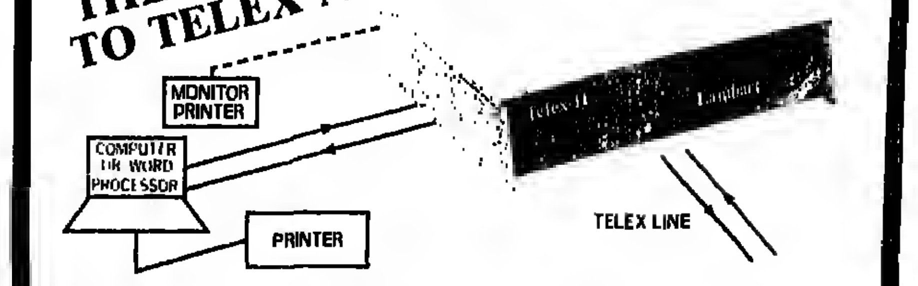

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PRODUCTS

The Anchor Pad Security Rack keeps the scrumpers at bay.

Stop that Apple thief!

IF you are worried about anyone making off with your Apple you will be interested in the Anchor Pad Security Rack from Data Design Techniques. It is specifically designed to secure an Apple II system comprising CPU and keyboard, twin floppy discs and monitor in its normal operating position.

Anchor Pad systems deter theft by "anchoring" equipment to a desk or similar working surface. Unlike most immobilising systems the Anchor Pad does not rely on a bolting-type device; apart from ruining the furniture, the maker of Anchor Pad considers such devices are far too easily defeated.

Anchor Pad uses an adhesive pad integral with a metal baseplate which is "glued" to the working surface with a minimum force of 50lbs per square inch. A mating casting bolts to the chassis of the equipment to be secured and this casting is married to the baseplate using steel rods which can only be extracted by a special tool. As a final precaution the rods themselves are further protected by numbered key-locks.

The Apple II version comprises a three-stage rack assembly with each component of the Apple II secured individually within the rack. The complete assembly can be rotated through 360 degrees for operator convenience, and any item can be unlocked for servicing. The open rack system ensures adequate ventilation for each Apple II system component.

Data Design Techniques (CW), 68/70 Tewin Road, Welwyn Garden City, Herts AL7 1BD. Tel: Welwyn Garden 34774.

Plug compatible disc drive can save space

CENTURY Data Systems has launched a 300 Mbyte, SMD-compatible Winchester emulation for Control Data's 9766 removable pack drive.

Designated the AMS 315 (Advanced Marksman Series), the new drive is one-third the size of comparable 3330 technology pack drives with the same capacity. This allows the user an option of packaging three times the amount of storage in the same physical space, says the supplier.

The AMS 315 is plug compatible with CDC's 9766 removable pack drive, Ampex's 9300A, and Ceotury Data's Trident T302 and T306. This compatibility provides significant time and cost savings to the OEM by allowing immediate integration of Winchester technology with no system hardware or software modification, says Century.

The AMS 315 has an MTBF (mean time between failures) in excess of 10,000 hours, which is 2½ times greater than comparable removable pack drives.

Century Data Systems (CW), AMD House, Goldsworth Road, Woking, Surrey. Tel: (04862) 27272.

Tektronix users can save by local programming

TEKTRONIX has introduced a local programmability package for its 4110 Series of intelligent computer display terminals. Providing direct, local access to the terminal's graphics features, the local programmability facility saves host computer connection costs and frees the user from the long response times often found in large time-sharing systems.

The Tektronix local-programmability package supplies all the elements required to write, edit, compile, link, debug, and run programs locally; to access all the graphic and alphanumeric features resident in the 4110 Series firmware; and to control all peripherals, such as plotters, printer, graphic tablets, and mass storage devices, which may be connected to the terminal.

The package consists of a disc-based operating system, a Fortran-86 compiler, utility programs, a library of low-level interface subroutines, and an Intel 8087 numeric processor. A local version of Tektronix's Interactive Graphics Library is also available.

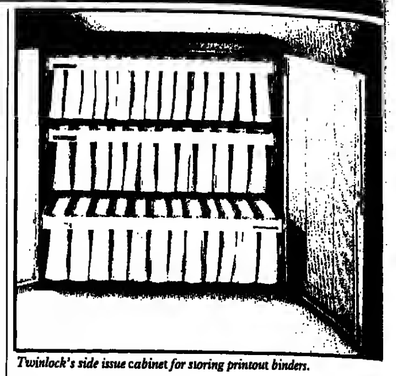
All 4110 Series terminals are easily upgraded to local programmability. The recommended system configuration includes a minimum of 256 Kbytes of RAM. The user can expand local memory up to a maximum of 800 Kbytes on the 4114 and 4113, and up to a total of 672 Kbytes on the 4112.

For mass storage of system and application programs, the terminal needs either two flexible disc drives or one flexible disc drive and one miniature hard disc drive. Each eight-inch flexible disc provides up to 630 Kbytes of file storage and the hard disc can store up to 10 Mbytes of data.

Local programmability delivers increased productivity by applying the benefits of distributed processing to graphics applications. The user has the flexibility to run entire programs locally, or to connect the terminal to a host system for more complex tasks.

While many applications, at least in part, require the number-crunching and database management capabilities of a mainframe computer, the terminal can still be used on a standalone basis for the pre-processing and post-processing of graphics information.

Tektronix (CW), Beeverton House, PO Box 69, Harpenden, Herts. Tel: Harpenden 63141.



Twinlock's side issue cabinet for storing printout binders.

A place for printout

TWINLOCK has launched a side issue cabinet for storage of computer printout binders. Based on the established Multi-Stor range of cupboards, the side issue cabinet is finished in chocolate and cream colour scheme.

The side issue cabinet can accommodate computer printout with a drop of up to 12 inches, while the roll-out filing chassis are supplied complete with an adjustable filing rail able to take printout binders of most widths up to 15⅝ inches. Three roll-out chassis are accommodated within a height of just over four feet, and incorporate an anti-tilt mechanism which prevents more than one chass from being pulled out at the same time.

Two conventional steel doo are used for reliability and durab ity, and the cabinet has a wip clean finish.

The side issue cabinet cos £275. It is 48¼ inches high, 2 inches wide and 15⅝ inches dee

Twinlock (CW), 36 Cropke Road, Beckenham, Kent BR3 4BH. Tel: 01-650 4818.

GP's microprocessor controlled EPROM programmer/emulator.

EPROM programmer

A MICROPROCESSOR controlled EPROM programmer/emulator, which at £545 is claimed to be half the price of any comparable equipment currently available, has been launched by GP Industrial Electronics.

Called the EP4000, the unit has been designed to be simple to operate, extremely reliable, and will program and emulate all the popular NMOS EPROM according to the full manufacturers' specifications.

Personality cards and hardware changes are not usually required by the EP4000.

GP Industrial Electronics (CW), Unit E, Huxley Close, Newnham Industrial Estate, Plymouth PL7 4JN. Tel: (0752) 332961.

GCS adds to Telex comms product range

FOUR NEW Telex products compliment the existing range of IBM SNA and BSC plug-compatible terminals, controllers and printers supplied by General Computer Systems.

Each product continues the Telex philosophy of 100% plug compatibility within an IBM supplied network and according to GCS provides more features for less money than an IBM equivalent.

Telex product development intentions are illustrated in the 476 terminal which has no direct equivalent within the IBM range, but achieves around a 25% price advantage over an IBM alternative. The Telex 476 emulates an IBM 3276 and is claimed to be particularly cost-effective for remote locations requiring up to three or four devices where, previously, users had to install a more expensive 3276, 3274 or equivalent co

Telex 178, an IBM 3278 compatible device meets the need of Executive users requiring a smaller sized terminal. It has a 12 inch screen with identical performance to that of the existing inch Telex 278.02.

Telex 174 is a new d controller supporting eight A-coax devices. BSC, SNA both, separately addressable, turing switch selection contro is plug compatible with the IB 3274 controller.

The Telex 287D 150 characte per second bi-directional matr printer is claimed to be one of t most cost effective plug compa ble printers available.

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Analyst/Programmers to £9,500

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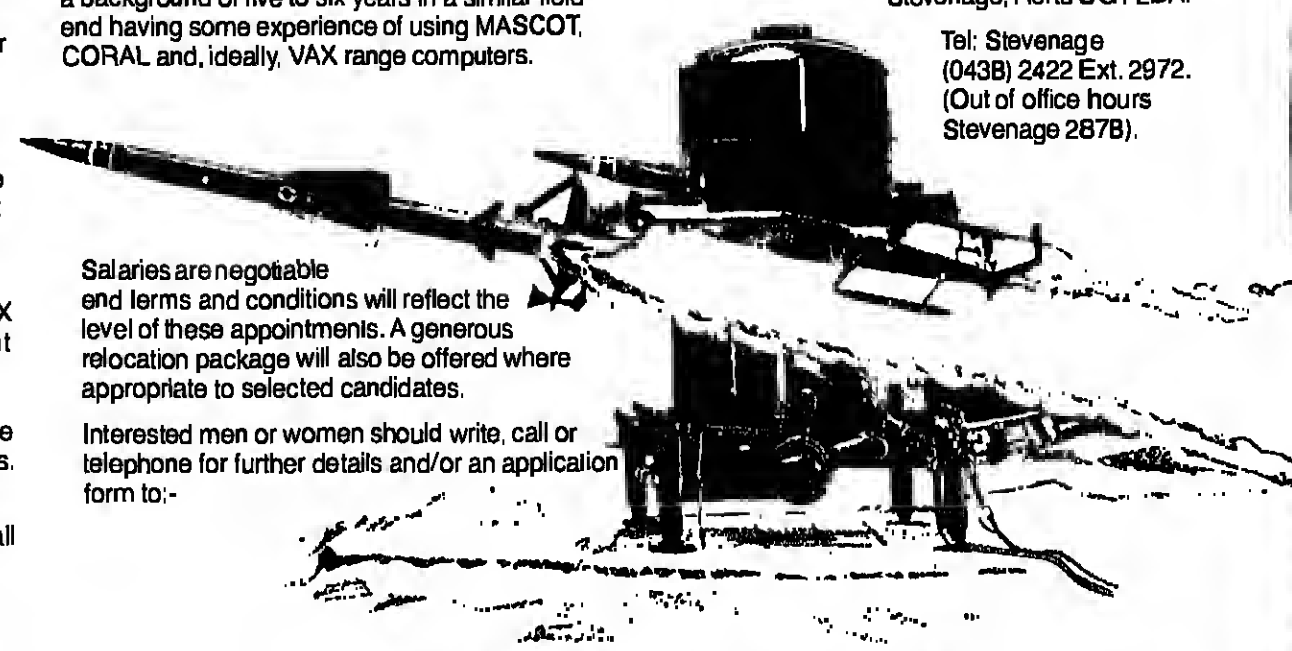

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(1035)

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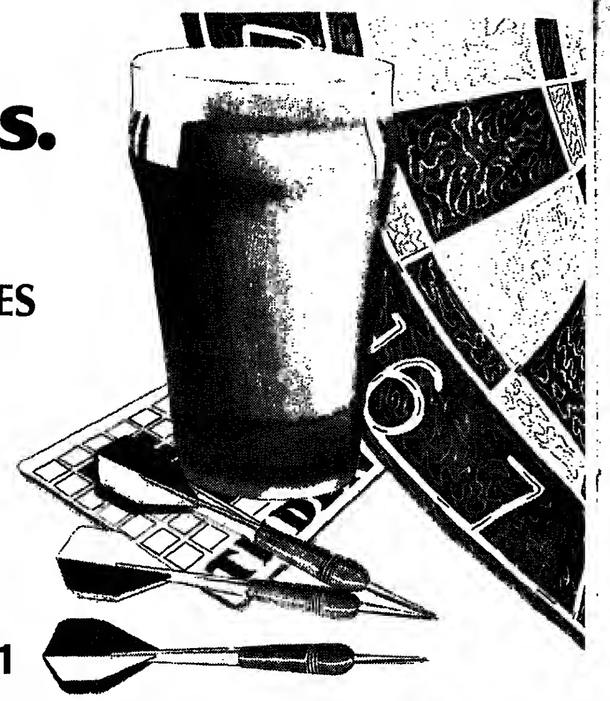

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(0878)

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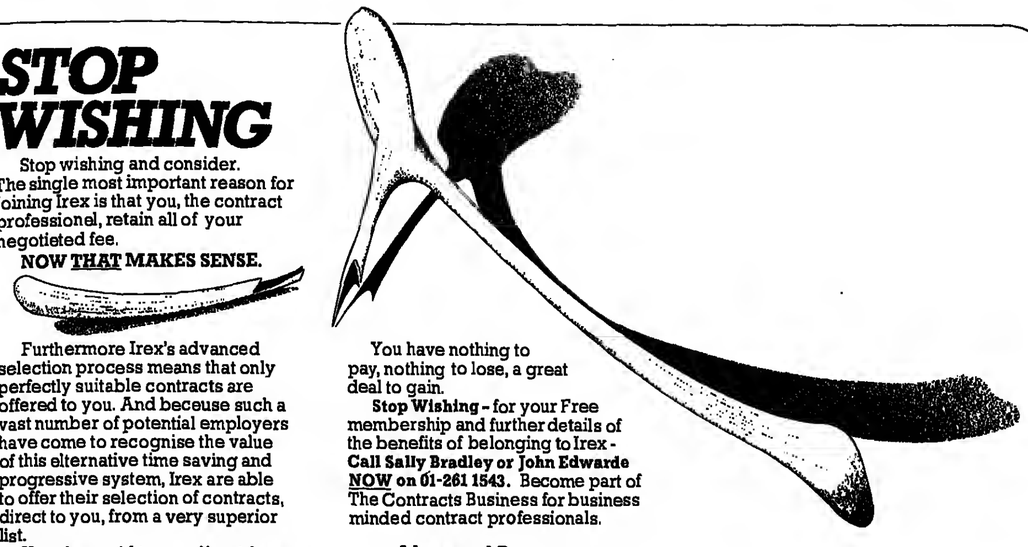

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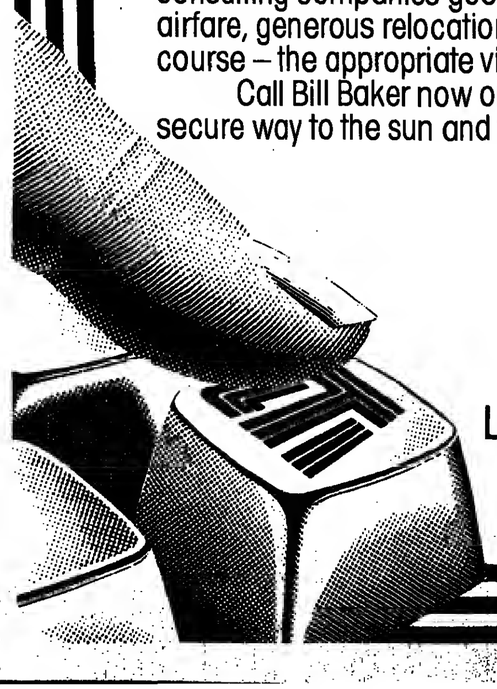

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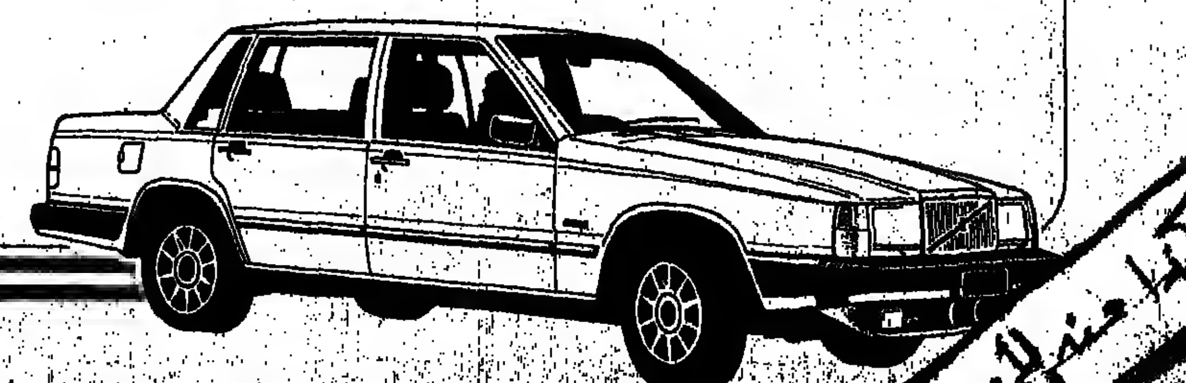

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We are currently dealing with a number of highly successful SOFTWARE HOUSES, who need to recruit experienced RPG II or III programmers. The companies concerned deal mainly with the FINANCIAL and COMMERCIAL sectors, but there is also interest in people with MANUFACTURING backgrounds. IBM SYSTEM 34 or 38 experience would be useful, but any machine RPG would be considered, as re-training is usually provided where necessary. Salary levels are very high and career prospects are excellent for these positions. S3958

S W LONDON — **SENIOR ANALYST/PROGRAMMER** — **c£12,000**

This MANUFACTURING company is looking to recruit a SENIOR ANALYST/PROGRAMMER with experience of RPG II or RPG III gained in an IBM GSD environment. The company are currently utilizing an ISM SYSTEM 34 and will shortly take delivery of a SYSTEM 38. The successful candidate will have worked with manufacturing applications and will have experience of the manufacturing package MAAPICS. He or she will be involved in the development of new systems and will receive an attractive salary with benefits. S3860

(0811)

TCR **Targa Computer Recruitment**
6 Liverpool Street London EC2M 7NH Telephone 01-283 9941 Telex 894858

CONTRACTORS OUR COMMENT ON YOUR FUTURE PROSPECTS

Contractors and potential contractors – things are booming again in your market. As you can see below, we have a considerable number of requirements in all areas. Span has a reputation for speed, efficiency and for providing a quality service for contractors. We don't have luxury cruisers for sauntering around the south coast, we don't offer a contractors directory to mail to clients, we're more concerned with finding you the right contract for the right price at the right time.

So if you ring us to register, you will see what the thumbs up sign really means.

IBM PL/I CICS	Progs – Home Counties
IBM System 38 RPG 3	All levels – All areas
IBM System 34 RPG2 ± Maapics	Progs – London/Midlands
IBM IMS	Systems Progs – London/Home Counties
IBM PL/I IMS	Progs – London
IBM DOS VSE COBOL VSAM	Progs – Kent
IBM COBOL CICS DL/I	Progs – All areas
IBM S280 DE RPG	Progs – London
IBM ADABAS NATURAL	Progs – London
IBM CICS+ ENVIRON I	Systems Prog – Home Counties
IBM 4300 OS/VS COBOL	All levels – SW England
IBM Series I COBOL EDX EDL	Analyst/Progs – All areas
IBM COBOL PANVALET TSO SPF	All levels – Midlands
IBM COMMS SPECIALIST TCAM	– London
TECHNICAL AUTHORS	– Everywhere
INFO DATABASE (PRIME/VAX)	Consultant – London
CAD Experience	Consultant – Home Counties
UNIX and C and COBOL	Progs – London

ICL 2900 COBOL	All levels – All areas
ICL PERT 2900	Analyst – London
ICL 1900 GII	Analyst/Prog – London
UNIVAC System 80/90-30	Progs – Home Counties
UNIVAC 1100 DMS CMS MAPPER	All levels – All areas
HONEYWELL LEVEL 64 IDS TDS	Analyst/Prog – Midlands
PDP II BASIC + 2 RSTS	Progs – Midlands
PDP II MUMPS	Analyst/Progs – Midlands
VAX II/780 VMS COBOL	Progs – All areas
PRIME	All levels – North
PRIME 750 COBOL DATABASE	Prog – Sussex
HP3000	All levels – Midlands/North
DATAPOINT	All levels – North
PERKIN ELMER COBOL FORTRAN	All levels – Home Counties
Z80 ASSEMBLER	Designer/Prog – Home Counties
INTEL 8086 CORAL 66	Progs – Essex
INTEL COMMS SPECIALIST X25	– All areas
TEXAS INSTRUMENTS	Progs – London/Midlands

Mail the coupon to Span Computer Contracts, Freepost 37, London W1E 6UZ

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CW23 9

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43-44 GREAT WINDMILL STREET, LONDON W1V 7PA
TELEPHONE 01-734 7394 24 HOUR ANSWERPHONE

CONTRACTS

PDP MUMPS	NETWORK CONTROLLER	IBM MVS COBOL CICS DL/I	PROGRAMMERS
PDP CORAL 66	PROGRAMMERS	IBM DOS COBOL CICS DL/I	PROGRAMMERS
PDP RSX11M FORTRAN ASSEMBLER	ANALYST PROGRAMMER	IBM MVS VM/CMS PL/I JSP	PROGRAMMER
	PROGRAMMERS	IBM DOS PL/I CICS DL/I	PROGRAMMERS
DEC VAX VMS COBOL	ANALYST PROGRAMMER	IBM SYSTEM 38 RPG III	ANALYST PROGRAMMER
INTEL 80/86 ASSEMBLER	PROGRAMMERS	IBM SYSTEM 34 COBOL	PROGRAMMER
UNIVAC 1100 COBOL	PROGRAMMERS	IBM 52/80 DE/RPG	PROGRAMMERS
ICL VMEB IDMS	DESIGNERS	IBM 8100 DPCX ASSEMBLER	PROGRAMMER
ICL IDMS	ANALYST PROGRAMMERS	IBM DOS/VSE RPG II	PROGRAMMER
ICL SYSTEM 10/25 ASSEMBLER	PROGRAMMER	IBM DOS ASSEMBLER	PROGRAMMER
H.P. 3000 COBOL	PROGRAMMERS	IBM IMS	ANALYST/DBA
HONEYWELL DPS 8			

PERMANENT SYSTEMS AND PROGRAMMING

RPG III/II — UK — to £17,000 + Car
An International Finance Corporation are currently recruiting Systems and Programming Staff at various levels for their System 38 installation throughout the UK. A particularly urgent requirement is for a Computer Manager based in Surrey.
Vacancies exist for **RPG III** and well-versed **RPG II Analyst/Programmer and Programmers.** An extremely competitive range of salaries are available along with generous benefits including company car at managerial level. Ref. N5484

Programmers — London — £8,000-£10,000
A leading international company currently require COBOL programmers. Based in West London applicants should have a minimum of two years' solid IBM COBOL experience either from a DOS or OS environment. Successful applicants will enjoy a generous salary and fast-moving career prospects. Ref. N5482

SNR System Analysts AN/Progs. — London — to £13,000
A city-based company presently require Senior Systems Analysts and Analyst/Programmers to work on new development projects. Supervisory exp. would be advantageous as successor candidates will quickly move into a team leading capacity. Solid Cobol exp. is essential and a knowledge of CICS would be advantageous. Ref. N5445

SNR Programmer — Middx — £9,500
Based in Middlesex with easy access from West London and the surrounding areas this company who are involved in the retail industry are looking for a senior programmer. The candidate should have two years-plus COBOL gained in an IBM environment. Any on-line experience is helpful, however this is an excellent opportunity to train in the use of CICS. Ref. S5206

Analyst/Programmer — City — £14,000+Benefits
This division of a leading merchant bank based in the City require an analyst/programmer with COBOL CICS and preferably DLI database experience. This is an excellent opportunity for candidates with CICS to move into banking. A programmer with 18 months-plus IBM COBOL experience is also required. The usual banking benefits apply including a subsidised mortgage. Ref. S5119

Analysts and Programmers London — Dep. on Exp.
A progressive consultancy based in London are looking for programmers and analysts to work at various levels. They are particularly interested in people with any of the following: PL1, COBOL, MARK IV, DATABUS, CICS, DL1, IMS, DB/DC or WANG VS experience. Salaries are generous and career progression is good. Ref. S5468

01-437 5994 24hr

DATAPOWER

Employment/Business Agency
Suite 504, 5th Floor, Triumph Hse, 189 Regent St, London W1
01-450 2602 or 286 9417 (Evening)

LOOK FORWARD TO
A DP Development to meet the needs of the 1990's

IBM OPERATIONS SUPPORT

CROYDON c£9,500 + benefits

The NLA Tower in Croydon is the home of Hill Samuel Life Assurance, a member of the famous Hill Samuel Group. HSLA is about to expand its computing power significantly, to cater for the corporate systems needs into the 1990's. Hardware will be dramatically increased to a triple processor 4300 installation and plans to house it focus upon a brand new underground computer building. The installation uses a wide variety of IBM software including VM/CMS, OS/VS1, MVS, DOS/VSE and CICS.

The immediate requirement is for a first class production controller with the ability to foresee potential problems within production systems and neutralise them before they occur.

Experience must include liaison with users, including systems development, the creation and maintenance of OS or MVS JCL and the investigation and correction of application systems failures. Previous exposure to VSAM, VM/CMS or operational analysis would be an additional bonus.

HSLA offers a competitive salary plus a valuable benefits package which includes non-contributory pension scheme, productivity bonus, mortgage subsidy scheme and flexitime. For further information please contact Pat Barnes (24 hr answering service) quoting ref:CW119

CAPP ASSOCIATES
01-686 9693
Capp House, 96d South End, Croydon CR9 3SD.
Computer and Professional Personnel Consultants

Senior Computer Operator

£6,719 p.a. including S.A. under review for 1st October

Southampton

We operate a Burroughs 6900 working a two shift system covering 08.00 — 24.00 hours. We process a variety of batch, DATABASE, on-line and International Transmission System.

Currently we have a Senior Operator vacancy and if such a post appeals to you and you have already obtained at least two years' large system experience preferably with Burroughs' equipment, we should be interested to hear from you. Alternatively if you have less experience than this but on a large/medium system and you find this type of position challenging we should also like to hear from you.

A.C.T. Services Ltd., operates worldwide through Container Services on behalf of five major shipping lines and is based in Southampton. Where appropriate we will pay relocation expenses. In addition to the above salary we offer the usual large company fringe benefits.

For further information and an application form, please write or telephone (reversing the charges if you wish) to:
Mrs. L. Lisney, Assistant Personnel Officer, A.C.T. Services Ltd., Richmond House, Terminus Terrace, Southampton.
Tel: (0703) 34433 ext. 3305.

ACTS

PUBLIC SECTOR JOBS

Computer Auditor

£10,590-£11,751 based in Reading

A computer audit specialist is required to join a small team within the Internal Audit Section. Initially the work will concentrate on the review of new applications, currently being implemented on a Region-wide network of PRIME computers, and the development of a comprehensive library of audit software to run on these machines. The work will later expand to cover the operations and security of the Authority's other installations, twin IBM 4341s which support a large teleprocessing network, and a dual ICL 2960 providing a bureau service to the Authority.
Candidates will be expected to be experienced computer analysts/programmers or qualified accountants with a sound practical knowledge of computing. An understanding of the role of Internal Audit together with the ability to criticise constructively and communicate effectively are considered essential. The post involves some travelling within the Region and applicants should hold a current driving licence.
Benefits include a superannuation scheme, generous holidays, flexible working hours, staff canteen, good social and sporting facilities.
Applications, giving full details of qualifications and experience, together with the names of two referees, should be submitted to The Regional Manager — Manpower, Nugent House, Vastern Road, Reading, RG1 8DB, by 8 October. Or phone Derek Dunn on 0734 593337 for an informal talk.

Thames Water

(1010)

Rotherham Metropolitan Council
ROTHER VALLEY COLLEGE OF FURTHER EDUCATION
Dos Quarry Lane, Dinnington Sheffield S31 7NH

required as soon as possible

TWO TEMPORARY ONE-YEAR POSTS OF LECTURER I

(£5368-£9267 p.a.)

One post for Computer Studies, one post for Computing/Electronics. This is an opportunity to work with a variety of courses from 'O' level to Higher T.E.C. Certificate in Computer Studies.

For further information ring Worksop 569881.

Curriculum Vitae and details of two persons for reference should be sent immediately to the Principal of the College.

W. B. Mussett, Director of Personnel Resources

(0892)

Welwyn Hatfield District Council

Senior Programmer

Salary up to £7,137
Pay award pending

Required to participate in the development of a property database using IDMS software, the successful applicant will ideally have 2-3 year COBOL experience, preferably with VME2900 and also have IDMS experience although training could be provided.

The person appointed will also play a major role in the further development of interactive word processing, cash receipting etc., providing both technical skills, consultancy and training.

Programmer

Salary up to £6,333
Pay award pending

Required to work on both the development of the property database and enhancements of our existing financial base. Applicants should therefore have 1-2 years COBOL experience preferably with VME2900 and/or IDMS.

Both posts carry a London outer fringe area allowance of £171 pa plus an incentive bonus paid half-yearly. Other benefits are: Housing accommodation or help with legal expenses in the case of house purchase. 100% removal expenses.

Further details from Computer Services Manager, Welwyn Hatfield District Council, Council Offices, Welwyn Garden City, Herts. Tel: Welwyn Garden 31212, ext 212.

0973

DATABASE/TP DEVELOPMENTS

We have recently replaced our ICL 2960 and ICL 2972 computer installation with a 16 m b dual ICL 2988.
We are committed to the development of on-line database systems and have vacancies for the following staff to help us to achieve implementation targets within our development programme.

SENIOR ANALYST/ SYSTEMS ANALYST

(Ref. M20)
£8379-£11,589 p.a. inc. (Under review)
Previous exposure to database and TP Systems is desirable, but training will be given if appropriate.

SENIOR PROGRAMMER/ PROGRAMMER

(Ref. M21)
£6072-£10,536 p.a. (Under review)
Experience of COBOL is essential. ICL 2900 experience is desirable but training will be given if appropriate.

A well-defined career structure will ensure that merit is rewarded by speedy progression within the organisation. Benefits include generous annual leave, flexible working hours, season ticket loans, a subsidised staff restaurant and relocation allowance if appropriate.

Application forms obtainable from the Personnel Officer, Directorate of Management Services, London Borough of Lambeth, 18 Brixton Hill, SW2. Tel: 01-274 7722 ext 3020. Closing date 7th October, 1982.

As part of Lambeth's Equal Opportunities Policy, applications are welcome from people regardless of disability, marital status, race or sex.

LAMBETH

(0987)

UNIVERSITY OF ESSEX
TEMPORARY LECTURER
In the Department of Computer Science

Applications are invited for a Temporary Lectureship for one year from 1 October, 1982. Salary will be in the range £6,375-£11,105. The person appointed will assist in the teaching of computer and microprocessor systems. Assistance is required in teaching and/or in research into methods of teaching modern computer architecture at first-year level. Applications are principally sought from candidates with practical experience of computer hardware and an interest in developing new software and hardware tools for teaching computer architecture and logic design, but consideration will also be given to candidates with interests in other aspects of computer systems. Applicants should have a good first degree in Computer Science, Electrical Engineering or a related subject.
Applications (3 copies) including a curriculum vitae and the names and addresses of 2 referees should reach the Registrar (AG/142/CW), University of Essex, Wivenhoe Park, Colchester CO4 3SQ, by 14 October. For further details please telephone 0206 862286 and ask for Dr. Standeven (extension 2XXX)

(0888)

TECHNICIAN/ PROGRAMMER FOR HUMAN-COMPUTER RESEARCH UNIT

Applicants should be able to demonstrate an ability to programme in at least one programming language.
The post is funded by the SERC and will be for three years initially.
Starting salary on the incremental scale Researcher A £4680 — £5355 per annum.
Further details and application form may be obtained from the Personnel Officer, Leicester Polytechnic, P.O. Box 143, Leicester LE1 9BH, Tel (0533) 551551 ext 2303.

(1023)

DAVENTRY DISTRICT COUNCIL
COMPUTER OPERATOR
TREASURER'S DEPARTMENT
Grade AP3 £5,652-£6,333 (Spinal Column Points 19-23)

Applications are invited for the position of Computer Operator in the Treasurer's Department.
The Council uses at present an ICL 7503 Terminal, soon to be replaced by an ICL DRS60. An ICL 7502 Interactive Terminal with VDUs is already in use.
The operator will be required to operate the equipment and to work in conjunction with the Punch Tape Operator on some document input. Additionally the Operator will be encouraged to undertake local programming for the DRS Terminal and Kode input equipment.
Application forms may be obtained by telephoning Daventry 71100 extension 205 and should be returned to the undersigned not later than first post Monday, 4th October, 1982.

Council Offices
Church Walk
DAVENTRY
Northants NN11 4BJ

R.C. HUTCHINSON
Chief Executive Officer

(0985)

CENTRAL REGIONAL COUNCIL
Computer Department
OPERATIONS SUPPORT SUPERVISOR
Viewforth, Stirling
Salary: AP III, £6,696-£7,371
(National Salary Award Pending)

35 hours, 5-day week, Monday to Friday. Flexible working hours scheme in accordance with the requirements of the Department.

The candidate will lead a small group of Operations Support Staff and therefore must have proven experience in all areas associated with such a group within a large IBM mainframe environment.

A sound knowledge of JCL, VSAM, IBM Utilities and Disk Space Management is essential. Knowledge of VM and MVS advantageous.

Applications in writing stating name, age, experience and qualifications to the Computer Manager, Central Regional Council, Viewforth, Stirling by Thursday, 7 October, 1982.

Chief Executives Department
Senior Programmer
£9,105-£10,443 incl. (under review)

The London Borough of Camden is a leading local authority in computing and is developing a wide range of applications for its ICL 2985/2956 complex, using the latest techniques and software tools including IDMS, DDS and TPMS.
If you have at least two years' applications programming experience in COBOL you could be the person we are looking for. Preferably you will also have worked in a 2900 VME installation, using structured programming techniques — but don't worry, training in these fields will be provided if necessary.
Interested? Application forms from the Departmental Staffing Officer, Room 207, Town Hall, Euston Road, London NW1 2RU or ring 387 8888 (Ansafone) quoting reference no. IC/88/CW. Closing date: 8th October, 1982.

(1015)

CAMDEN
An equal opportunity employer
Applicants are considered on the basis of their suitability for the post, regardless of sex, race, marital status or disablement.

THE UNIVERSITY OF ASTON IN BIRMINGHAM
Microprocessor Unit
LECTURERS

Applications are invited for two lecturer posts in the University's Microprocessor Unit and associated with the Department of Electrical and Electronic Engineering.
The role of the Microprocessor Unit is to provide a University central resource for the design, development and support of microprocessors and related engineering and computational systems. It provides undergraduate and postgraduate courses, projects and research. The Unit maintains close links with industry, providing industrial short courses and undertaking consultancy.
The lecturers appointed will be expected to undertake general teaching duties in the Department of Electrical and Electronic Engineering in addition to participating in the work of the Microprocessor Unit. The posts should provide excellent opportunities for research.
Applicants should have research interests related to microprocessor applications and experience relevant to Electrical or Electronic Engineering. Candidates should preferably have a higher degree and/or industrial experience.
Salary will be within the range £6378 to £13505 per annum and the appointments will be for a period of three years.
Application forms and further particulars may be obtained from the Staff Officer (quoting Ref 525/102) University of Aston in Birmingham, Costa Green, Birmingham B4 7ET (Tel 021 359 3611 Ext 4564). Closing date: 15th October 1982.

1028

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

Robots in Manufacturing

Applications are invited for two posts as RESEARCH ASSOCIATES to work on a SERC sponsored and industrially supported project which will concentrate on the aspects of microprocessor control and the use of industrial robots in manufacturing systems. Applicants should hold a good honours degree or equivalent preferably with industrial experience in either the application of digital systems or the design of production systems. The successful applicants may be permitted to register for a higher degree. The posts are tenable for up to three years at a salary within scale £5,775 to £8,515. Write giving particulars to Dr R. H. Weston, Department of Engineering Production.
Loughborough Leicestershire

(0899)

UNIVERSITY OF BIRMINGHAM
Department of Physics
Hardware Engineer

Applications are invited for the post of Hardware Engineer (male/female) in the Elementary Particle Physics research group. The successful applicant will be required to design and commission electronic equipment including microprocessors.

A degree or equivalent in an appropriate subject with a substantial electronics content is required. Some experience in an electronics service and development environment is desirable.

The post is funded on Scale IB (£5,550-£9,370) by a rolling grant from SERC. The appointment will be for two years initially.

Applications should be made to the Senior Assistant Secretary, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, from whom application forms and further particulars are available, to reach him by Monday, 4 October, 1982.

(0900)

LONDON BOROUGH OF SOUTHWARK
Systems Programmer

AP4 — £7,509 to £8,145 or
AP5 — £8,379 to £8,883 or
SO1 — £9,198 to £9,741
(Salary review pending)

This vacancy is within a team of four support staff who provide software and operational support to all our mainframe users and are responsible for the support, testing and implementation of all new software products, base software updates and new hardware.
The Borough has recently upgraded from an ICL 2970 to an ICL 2966 and runs under VME/B 6.23 with some SYS 4 DME, and is becoming increasingly more involved in TP/IDMS applications.
Applicants should have a good working knowledge of VME/B, SCL and COBOL. Experience with TP base systems would be an advantage.
Telephone 01-701 2870 any time for an application form, or write, on a postcard to: The Personnel Officer, London Borough of Southwark, 25 Commercial Way, London SE15 5DG. Please quote reference CO/8/3307 and job title. Last date for receipt of completed Application Forms: 4.10.82.

(0923)

SOUTH DEVON TECHNICAL COLLEGE TORQUAY

Required immediately:

TEMPORARY LECTURER I — COMPUTING SCIENCE/DATA PROCESSING

to teach both theory and practice in awareness, appreciation and application courses, including Business Studies and A-level DCE.

This post is temporary for one year in the first instance.

APPLICANTS SHOULD BE TRAINED TEACHERS, PREFERABLY GRADUATES. INDUSTRIAL OR COMMERCIAL EXPERIENCE WILL BE AN ADVANTAGE.

Salary Scale (Burnham FE Report)
Lecturer I .... £5,355-£9,267 per annum

(Placing on scale according to qualifications and experience.)

Further details and application form, returnable by Friday, 1st October, 1982, from Senior Administrative Officer, Newton Road, Torquay, TQ2 5BY. (S.a.e. please)

(0947)

UNIVERSITY OF LONDON GOLDSMITHS' COLLEGE

Applications are invited for the following new posts in connection with the installation of a DEC VAX 11/750 computer to provide computing facilities throughout the College: —

TWO APPLICATIONS/ ADVISORY PROGRAMMERS

Applicants should have experience of programming in BASIC, FORTRAN and PASCAL and of advising users. They will be expected to provide programming support to members of staff and to assist users to find appropriate solutions to their computing requirements.

Salary within the range £7,125 x 9 increments to £8,661 per annum inclusive.

Write for further details to the Personnel Officer, University of London Goldsmiths' College, New Cross, London, SE14 6NW. Closing date for applications 1st October, 1982.

0924

BOX NUMBERS

Box number replies should be addressed to:
Box Number ....
c/o Computer Weekly
Quadrant House
The Quadrant
Sutton, Surrey SM2 5AS

PRIMAX COMPUTER SERVICES

SYSTEMS ANALYST — £ Neg.
A minimum of five years' experience in a commercial IBM environment is required for this position and a good grounding in CICS is essential.
London Ref. 100A

PROG/ANALYST (1-2) — to £9½K
One-three years' solid IBM Cobol to work on commercial applications for a major company. Knowledge of CICS would be helpful.
London Ref. 120B

ANALYST/PROGS — £ Neg.
With two-three years' solid IBM Cobol and CICS in a commercial environment.
London Ref. 100B

PROGRAMMER — to £9K
An interesting opening for a solid Burroughs programmer to work with and deputise for the dpm. Should have some exposure to systems and users as the job will entail analysis and user liaison. Knowledge of CMSII, CANDE, LINC would be useful.
London Ref. 142A

ANALYST/PROGRAMMER — to £12K
Two-three years' HP3000 experience using Cobol. Must have good exposure to systems work.
Home Counties/London Ref. 106A

ANALYST/PROGRAMMERS — £ Neg.
Around three years' experience in IBM Cobol, CICS and DL1 will be necessary to fill these demanding positions in the banking sector.
London Ref. 107B

TEAM LEADER — to 15K
A thorough knowledge of CICS and DL1 will be required as well as Cobol and BAL with applications and systems software experience and some involvement in the design and planning of RT systems.
London Ref. 210A

ANALYST/PROGRAMMER — to £10K
Minimum three years' pref. Burroughs with experience in systems design/implementation and database. Insurance and commercial applications. Also three programmers with two years' Burroughs Cobol. Good perks.
London Ref. 128A

SYSTEMS ANALYST — £ Neg.
Two-three years as an Analyst in a stock control environment on any mainframe is required. Must have Point-of-Sales systems experience; to work with Burroughs equipment on systems investigation and redevelopment.
Avon Ref. 111B

ANALYST/PROGRAMMER — to £10K + Car
Four-five years' solid programming and systems, pref. using Data General equipment. Suit someone looking towards Project Management. Must have experience with multi-terminal minis and be prepared to do some programming. Car + BUPA.
London Ref. 102A

These are just a few of our many permanent vacancies
IBM Cobol CICS DL1 Contracts; Urgent requirements — London
For further details please phone or write to:

PRIMAX COMPUTER SERVICES
176 MITCHAM ROAD, TOOTING, LONDON, S.W.17
PHONE: 01-672 6640
Lic. No. SE5897

(0951)

Programmers

Cambridge
£8,000 to £12,000

Specialising in computer aided engineering this organisation has grown in expertise and expanded with the technology itself so that today it is internationally respected as a leader in its field.

They are currently developing systems to run on a network of dedicated single-user workstations and on time-sharing systems using a variety of hardware.

They have a need for high calibre programmers to work on both the applications and environmental software.

Applicants should have experience of working on large Fortran programs or of developing operating systems or communications software on mini or micro computers.

Ideally, candidates will also have been involved in the re-implementation of programs on a variety of hardware and have had some exposure to CAD or CAM software.

These positions represent excellent career opportunities in a growth industry based at an attractive location.

Please Contact: David Hendry

Ferguson Thorley Bowles Associates Limited
International Personnel Consultants
15 Clarence Street, Staines, Middlesex TW18 4SU
Telephone: Staines (0784) 59247. Telex: 8814148

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OPERATORS

UCA

SEPTEMBER SAMPLES

PROGRAMMER/ANALYSTS

Near CROYDON **£6,000 to £9,000**

One of the largest electronic companies in the country is anxious to engage people with 1 to 5 years' experience on an IBM environment who now wish to progress into Systems work from programming. Preference will be given to people with CICS and OS/MVS, but this is not a must. Your career is assured with this Company. CW 37/1

PL/1 PROGRAMMERS AND ANALYST/PROGRAMMERS

GREATER LONDON **£7,500 to £11,000**

A large number of IBM installations, all offering further training, are looking for young applicants who wish to go further. Telephone for fuller details on vacancies in the CITY, GRAVESEND, SLOUGH, GREENFORD, COWLEY, BEDFORD, CROYDON, HAYES and WEST LONDON. Each organisation is of course different but career prospects are significant in each case. CW 37/2

PROGRAMMERS & SYSTEMS/ ANALYST

C. LONDON **£10,000 to £12,000**

Here is the chance for young progressive people to join one of the most famous high street chains in their commodities related project. With their present IBM 4341 computer using COBOL, ASSEMBLER, DOS/VSE & CICS, there is plenty of opportunities for advancement. Full training will be given to non-IBM personnel. CW37/3

FREELANCE PEOPLE – URGENT

IBM	AVABAS	MATURAL	A/P
DEC	VAX COBOL	DMS 32	PROG
IBM	IMS	DB/DC	A/P
IBM	SYS/3	RPG...CCP	PROG
IBM	DOS/VSAM	COBOL	PROG
IBM	OL/1	PL/1	PROG
IBM	COBOL	MK IV	PROG
IBM	IMS	DESIGNERS	S/A
ICL	VME	IDMS	PROG

Please phone Alan on 01-458 8535.

PRE- & POST-SALES SUPPORT

HERTS, MIDDX, SURREY **£8,000 to £13,000 + CAR**

Things must be picking up! We now have six MINI computer manufacturing companies with offices around the HOME COUNTIES who require well qualified people with the confidence to deal with clients in a pre- and post-sales situation. All vacancies require a programming background with ASSEMBLER, BASIC, FORTRAN, CORAL or COBOL experience on MINIS. The jobs will provide an exciting and satisfying career, so please ring me now. CW 37/4

SYSTEMS ENGINEERS

HERTS/SURREY **£8,000 to £11,500 (+ CAR)**

We now have eight manufacturers/systems houses looking for all levels of qualified Engineers with Mini-Micro Software or Hardware backgrounds. Some of the following familiarity is required: Assembler, Pascal, Fortran, VAX machines, RSX, RTL2, Data Communications: Message Switching Software, CP/M or UNIX. Top perks (including a car) for some of these top jobs, plus possible trips to USA. CW 37/5

CONSULTANT/PROGRAMMERS & ANALYSTS

CITY **to £10,000-£18,000**

If you are in the age range of 25-35 with a good degree or equivalent, and the multiple skills of having worked in more than one Commercial environment, then now is the chance to benefit from your background. Three major manufacturing consultancies require your skills now as a Programmer Analyst or Project Leader. CW 37/6

MICRO COMPUTER SALESMEN

SOUTHERN HOME COUNTIES **to £17,000 OE**

Are you experienced in this new and exciting field? If you have at least one year selling micro-based products then ring us to discuss the excellent kit and selling package this up-and-coming company has to offer. Looking forward to hearing from you! CW 37/7

Phone Neville or Michael for permanent vacancies.

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UCA

APPOINTMENTS IN SOUTHERN IRELAND

THE SILICON VALLEY OF EUROPE

In the early 1970s, the Irish Industrial Development Authority (IDA) recognised the electronics industry as offering major growth prospects for investment and employment. Following an aggressive marketing campaign to attract some of the world leaders in the industry to set up manufacturing plants in Ireland, electronics has now expanded to the point where Ireland is often referred to as the "SILICON VALLEY" of Europe.

17 of the top 100 U.S. electronic companies now have factories in Ireland. Such well-known names as Digital, Mostek, Amdahl, Wang, Apple, General Electric, Westinghouse, Storage Technology and Perkin Elmer are firmly established in Ireland. From Japan came Fujitsu and Nippon Electric and Nixdorf from Germany. Products range across the spectrum of Mini and Main-Frame computers: Microprocessors: Medical and Scientific Instruments: Consumer Electronics: Process Control Equipment: Printers and Telecommunications Equipment.

1985 output of the Irish electronics industry will exceed IR pounds, 1,200 million and the current employment level of over 15,000 will have doubled by the middle of the decade.

SOFTWARE GROWING

So far we have been talking about the Hardware side of electronics. But Software is dramatically growing in importance within the Data Processing and computing industry. As Hardware costs decrease with mass production, the complexity and cost of Software is growing. The importance is also growing and with it the need for large numbers of trained and skilled staff.

Increased use of high-level computer languages, the development of structural programming techniques and the introduction of wired standard programmes for mass-produced Software has helped to simplify matters. All these solutions, however, depend on people for their success.

50 PER CENT UNDER 25:

And people are exactly what Ireland has to offer. A well-educated, English speaking youthful workforce is yearly appearing on the job market in a country where the population is increasing by 1.5 per cent per annum and 50 per cent of that population is under the age of 25.

The IDA has reacted to this new found change of emphasis from Hardware to Software by introducing an incentive programme to encourage Software development and Data Processing companies. A comprehensive national effort has been made including education of Personnel. Development of Telecommunications, an attractive Tax Environment, Grants, Research and Development Facilities and the setting up of Business parks for service type industries.

Previously IDA grants had been aimed mainly at manufacturing industries. While these facilities are still being promoted as actively as ever, a new scheme of incentives for service industries, which include Data Processing and Software development, were introduced.

This IDA incentive package includes:

EMPLOYMENT GRANTS:
Cash grants payable on the jobs created. These grants are negotiable and can vary with the characteristics of the employment.

TRAINING GRANTS:
Up to 100 per cent of the cost of an agreed training programme for staff in new service industries. The grants can cover the cost of sending staff abroad for training: The Salaries, travel and subsistence expenses of training personnel and certain training courses geared to meet particular needs.

FAVOURABLE TAX ENVIRONMENT:
A maximum tax rate of 10 per cent is levied on the profits of companies engaged in Software development. This low corporate tax rate is particularly attractive to companies who are developing new products or expanding into new markets.

CAPITAL GRANTS:
A wide range of non-repayable cash grants are offered by the IDA to Software and Data Processing companies. These grants are given to cover the cost of fixed assets including computers, essential office furniture and accommodation, whether purchased or leased. Where leased, the percentage grant is given as a rent subsidy for the first 5 years.

LOW COST FINANCE:
Due to the favourable tax environment, the Irish banks can offer loan finance at low interest rates.

To qualify for all these incentives, companies must be export orientated and potentially able to create at least 20 jobs.

ALREADY IN IRELAND:
Some of the Software development and Data Processing companies already operating in Ireland which have been grant aided by the IDA include:

FROM THE UK:
Altergo (Ireland) Limited: Computer Ancillaries Ltd(CAL): Distributive Computer Systems (DCS).

FROM THE U.S.:
Cael (Ireland) Limited: Micropro (Ireland) Ltd: Inslau Europe Limited: Comserv Ireland: Four Phase Overseas Corporation: Informatics General Corporation.

OTHER COUNTRIES:
Ericsson Programmatic (Ireland) Limited: The European Software Company: Memory Ireland Limited: Mentec International Limited.

These service type industries are undoubtedly going to grow in importance over the coming years as the information society takes hold: With the IDA incentive package for these industries in operation, Ireland is poised to take more than its share of expansion in this market.

WANG

Wang Laboratories of Massachusetts U.S.A. are the World's largest supplier of C.R.T. based Word Processing Systems and we employ over 18,000 people in the Support, Sales and Manufacturing of a wide range of products.

In Ireland we are steadily expanding from our current base of over 300 people and as part of the expansion we wish to attract a first class

COMMUNICATIONS ANALYST

COMPETITIVE SALARY & CAR

Your job will be to provide all aspects of pre and post-sales Tele-Communications Support for Ireland and in this role you will have pre-sales consultation, networking specification, protocol support plus customer contact on new products such as Wangnet

As the successful candidate for this key position you will have sound technical experience in data communications in a sophisticated O.P. environment including synchronous protocols such as 3270, 2780/3780, HDLC and SDLC. Expertise in such areas as Message Switching, CICS etc. would be advantageous as would a knowledge of a high level Language

A good appreciation of the developments in the tele-communications field is essential including broad band technology if possible.

Ideally we are looking for good presentation skills and a person seeking the challenge and satisfaction only to be found in the Sales Support environment.

Training on new developments in the O.P. and Tele-communications technology will be provided both in the U.S.A. and Europe to enable you to upgrade your current skills.

In return we will reward you with an above average benefits package and a competitive salary. A car is provided for this position.

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The European Software Company

SYSTEMS ANALYSTS AND PROGRAMMERS – OVERSEAS OPPORTUNITY

A major Irish systems house in Dublin requires additional personnel with experience of IBM small systems. Programmers should have a minimum of one year's RPG. Systems personnel should have two years on commercial applications. Excellent salary and benefits. Ref. HAL/1/IR

PROJECT LEADERS – CORK

A leading producer of consumer products for export and the home market requires two Project Leaders to embark upon a major development program. This national concern plans to install a distributive network of computing. Salary will not pose a problem for the right people. Ref. HAL/2/IR

C.I.C.S. PROGRAMMERS – DUBLIN

A major marketing control organisation with responsibility for national consumer exports need good Cobol CICS programmers to play a major role in implementing a new real-time on-line system based on an IBM 4341 mainframe. A secure environment with an excellent salary. Ref. HAL/3/IR

SYSTEM 34 PROGRAMMERS

To work on a variety of international projects. This leading Dublin-based consultancy requires just two years' good experience. Naturally, all the benefits associated with a company of this kind can be expected. Ref. HAL/4/IR

ACCOUNTANT ANALYST (ACCA, ACMA)

To act as Implementation Consultant/Manager for product services. A second European language, preferably German, would be a plus. Ref. HAL/5/IR

MAAPICS PROGRAMMER

Two-three years' experience on IBM small systems using RPG II or RPG III. To join an organisation who specialises in IBM software worldwide. This company is Dublin-based and offers excellent rewards. Ref. HAL/6/IR

Edmund Howard & Partners
5 Brighton Road, Surbiton, Surrey, England
Tel: 01-399 9183

SYSTEMS ANALYST PROGRAMMER

Howmedica International, Inc. is an international organization, world leaders in development, manufacture and distribution of orthopaedic implants. As part of our ongoing development programme we are in the process of installing on-line computer systems to replace our current batch systems. We recently purchased an IBM System 34 with maximum configuration and 14 work stations and intend to complement this configuration with an IBM System 38 in the near future. We are implementing maapics and a number of other software packages to completely integrate our manufacturing, distribution and administrative activities. As a result of this the following vacancies now exist –

Programmer

Applicants must have at least 3 years' experience of RPG II and the IBM System 34. The successful candidate will be responsible for the installation, programming and operations standards.

Systems Analyst

Applicants will have a minimum of 4 years' data processing experience in programming and system analysis. He/She will have been involved in at least one system from design through to user acceptance stage. Ideally, though not essential, the applicant will have experience of a manufacturing industry and meapics on an IBM System 34.

The successful applicant will be expected to work with users from requirement analysis to user acceptance stage with the minimum of supervision.

This is an ideal career opportunity for the successful candidates to become involved with the latest technology and equipment currently available.

Salaries are competitive and negotiable and the full range of fringe benefits associated with a progressive organisation are in operation.

Applicants should send a brief résumé of their career to:

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Howmedica International, Inc.

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5 Brighton Road Surbiton Surrey KT6 5LX

ComputerWeekly

TOPJOBS

Announcing a new prestigious section for senior level computer appointments

Computer Weekly has introduced a new feature into the appointments section of the newspaper to accommodate senior level appointments with a basic minimum salary of £16k. The new section is headed "Top Jobs"

Computer Weekly carries a large volume of appointment pages every week. Now a special section for senior appointments will enable readers to locate suitable job opportunities more conveniently. At the same time, this new facility will provide advertisers with the option of securing a premier position without extra cost.

One of the special but important features of this new section is that only those jobs offering a basic minimum salary of £16k will be eligible for inclusion in "Top Jobs". This restriction will add considerable prestige to the section and the positions advertised.

Computer Weekly provides the most comprehensive news coverage of computer users and the computer industry. Surveys have shown the newspaper to be the most widely read computer publication in Britain. With a circulation of over *100,000 every week – 32% at senior/managerial level – Computer Weekly is your best choice for all computer vacancies, as well as those important Top Jobs.

Because of the strict salary level restrictions we are enforcing, and the subsequent advanced production arrangements necessary, all space reservations for the "Top Jobs" section must be received in London by 4 p.m. Friday before publication date.

To reserve space please phone Shobhan Gajjar (Direct Clients) or Julie McInally (Consultancies) on (01) 661 0121.

*Circulation ABC January-June 1982 – 100,283

ComputerWeekly

Classified Department, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

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The client, a highly successful and profitable British company, is attractively situated in a semi-rural area within easy reach of central London. The position offers excellent rewards and conditions and, where appropriate, relocation assistance will be provided.

To find out more and to apply in complete confidence, telephone Bernard Innes at Hemel Hempstead (0442) 42418 during office hours or on Hemel Hempstead 51281 evenings or weekends (not an answering machine) or write to him at the address below:

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Collina House, 56 Wootton Drive
Hemel Hempstead, Herts. HP2 6LB
Tel: Hemel Hempstead (0442) 42418

TOP JOBS

This new section has been introduced to enable readers to locate senior level job opportunities more conveniently. One of the special but important features of this section is that only those jobs offering a basic minimum salary of £16k are eligible for inclusion in "Top Jobs".

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ComputerWeekly

Classified Department, Quadrant House
The Quadrant, Sutton, Surrey, SM2 5AS

DATABASE PROGRAMMER c £11,000+
UNIVAC
Well-known company in London require a Data-Base Programmer to supplement their established team. A thorough knowledge and understanding of OMS 1100 and Cobol is required as the position carries the status of Senior Programmer. Although there are expension plans within the area a degree of maintenance work is expected. A very professional outlook and attitude is required from interested applicants.

SYSTEMS PERSONNEL to £10,000 + car
BRISTOL
Retail chain based in Bristol have a requirement for two experienced Systems Personnel. The two people will have complimentary skills and experience so as to cover the computer spectrum of retailing, stock control, equipment, etc. Experience of more than one menufacturers' hardware and of implementing a similar system, i.e., stock/sales control would also be required.

ANALYST/PROGRAMMERS c £10,000
BURROUGHS
Well-known company based in Essex require experienced programmers and analysts. The minimum requirement is two years' systems experience using COBOL, preferably on Burroughs hardware. Good academic qualifications, either a degree or HNC are also a precondition for these posts. Successful candidates should also be prepared for travel within the U.K. and Europe.

ANALYST/PROGRAMMERS to £11,000
HP BASIC/SPL
Expanding specialist software house with offices in Central and West London seek computer professionals with experience of HP 3000 or 250 machines. Candidates with a good academic background are preferred and in return will receive an excellent salary and package which includes annual bonus, flexitime and company car scheme.

PROGRAMMERS £ NEG.
HP COBOL
Well-known City financial concern with an extensive commitment to computer development requires a programmer with 1-4 years' COBOL, which must include some HP 3000 experience. Initially all work will be of a development nature thereby ensuring good career prospects. Perks include subs mortgage, loans, etc.

ANALYST/PROGRAMMERS c £10,000
PRIME/MINI COBOL
Two expanding software houses using Prime machinery require Analyst/Programmers with approx. 3 years' COBOL gained on PRIME or similar equipment. One company is based in North London and the other S. London, both offer stimulating positions in dynamic environments.

PROGS & AN/PROGS £ NEG
HONEYWELL L66
Progressive installation based in N. Surrey/S. Middx. is seeking to further enhance its programming and system departments so creating the above mentioned position. Applicants should possess a sound knowledge of IDS data-base systems, together with 2-3 years' COBOL experience gained preferably within a commercial organisation. Perks are many and varied including the possibility of a company car after a short qualifying period.

PROGRAMMERS c £10,200
RPG11/RPG111
Two international banks based in the City have requirements for RPG programmers. Both are MIOAS users and would be interested in applicants with MIOAS experience but realistically any banking/financial knowledge with a solid RPG background would be acceptable. As well as banking benefits applicants can expect early exposure to System 36.

PROGRAMMER c £8,000
BASIC/RSTSE
A systems house specialising in OEC systems has a requirement for 2 BASIC+ programmers. Applicants should have around 19 months BASIC+ gained in any commercial environment. This is an ideal opportunity for programmers to move on to VAX systems as the client is installing several of these systems.

CSD PROGRAMMER/ANALYSTS £NEG.
RPG11/RPG111
We have many clients, all of whom are SYS34 or SYS39 users, who have current requirements for programmers and analysts. Applicants should have a minimum of 6 months RPG gained in a commercial environment through to 3 years+ for the more senior consultant positions. The companies range from banking to manufacturing and offer a wide range of benefits.

PROGS & AN/PROGS to £11,000
HONEYWELL L6
A manufacturing concern and bureau company situated in the West London area are currently seeking O.P. professionals with a minimum of 18 months' COBOL experience. Exposure to TCL and associated applications and packages would be a distinct advantage, however not essential as training will be given where necessary. Due to the progressive mode of development projects a sound understanding of analysis and design is required for this Analyst/Prog position. Perks are varied.

This is just a small selection of current requirements: for details of these and others not advertised call us now.

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SYSTEMS & PROGRAMMING

★**COBOL ANALYST PROGRAMMER** c£11,000
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★**NCR COBOL & NEAT 3 PROGRAMMERS CITY**
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★**BURROUGHS COBOL PROGRAMMER CITY**
£8,500 + FINANCIAL BENEFITS
Finance House in the City currently require a programmer to work on Burroughs Midrange machines on mainly development work. REF. SF.

★**ANALYST/PROGRAMMERS-PRE-SALES** To c £13,000
Broad D.P. experienced required – preferably on two or more Mainframes – for Manufacturer requiring Systems Programmers. DATABASE/COMMS experience most advantageous. REF. MN

★**SENIOR PROGRAMMER** c£8,500
Around 2 years COBOL experience required – at least 1 year HONEYWELL LEVEL 66 with DM4, for Manufacturing Company, on East London borders. REF. MN.

★**ANALYST/PROGRAMMER (RPG-2 to RPG-3)** to £12,000
Manufacturing company based in South London require upwards of 2 years RPG-2 on IBM System 34 to move into a Senior position – a Team Leader role with management prospects. A System 38 is due for delivery at the end of the year and retraining will be done in RPG-3. Any MAAPICS and/or any Systems design experience would be advantageous. A position with a challenge! REF. BH.

★**FINANCIAL ANALYST** to £15,000 + MORTGAGE
Financial Organisation based in the City require a Senior Analyst with banking experience but not necessarily an IBM background – they run an IBM 4300 (CICS/DL-1) and are heavily involved in communications networks. Experience of Banking packages would be desirable and the ability to liaise with non-technical and technical staff is essential. REF. BH

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IBM BANKING CITY £12,000
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Major services organisation with excellent reputation requires IBM programmer to play a leading role within busy project team. IBM 4341 MVS IMS IDB10C. Experience of PL/1/Assembler coupled with a thorough knowledge of Cobol is needed along with a genuine desire to progress.

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IBM CICS/DOS/VSE subsidiary of leading insurance group wishes to recruit systems programmer, minimum two years' experience, to join small progressive team. The installation consists of two IBM 4341s. Excellent opportunity and benefits include MORTGAGE SUBSIDY.

SYS 34 RPGII CITY £10,000 + MORT.
Due to expansion and reorganisation this renowned European bank urgently seeks programmer with six months' analysis experience to join busy development team retaining IBM GSD mainframe due to replace SYS 34 with a SYS 38. Financial background preferred. Normal banking benefits apply.

SYSTEMS ANALYST CITY £13,000
Successful international shipping organisation seeks experienced systems analyst who will ideally have programming experience, sound financial background, along with knowledge of on-line systems and good communicative skills. Excellent benefits including cheap insurance and five weeks' holidays.

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PROGRAMMERS

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Programming

Warner-Lambert (UK) Limited is a leading manufacturer of a wide range of pharmaceutical products.

Due to an internal promotion, a career opportunity has arisen for a Project Analyst - Programming to work with a small, flexible team at our Pontypool Operations Division.

The successful candidate will contribute directly to the development of computer systems in an analytical role, and will also provide a specialist programming resource to the Pontypool based Management Information Systems Group in terms of Application Programming and Software Package support.

Current hardware is a local IBM RJE Terminal handling batch work and an extensive Teleprocessing Network, all operating under DOS/VSE and linked to the Group Computing Centre's IBM 4341 in Hampshire.

The Group uses a wide range of software and there are plans to make extensive use of 4th Generation Languages to support an ambitious development plan with particular emphasis on on-line systems.

Applicants must be able to demonstrate at least 3 years successful practical programming experience using COBOL on IBM mainframes, and should also be able to offer Systems Analysis experience in a manufacturing environment. A working knowledge of SHADOW/CICS and TOTAL would be an added advantage.

In return we are offering an excellent salary and benefits package, including relocation expenses where appropriate, to this attractive rural part of Gwent.

Please write or telephone for an application form to Andrew Roberts, Employee Resourcing and Development Manager, Warner-Lambert (UK) Limited, Usk Road, Pontypool, Gwent. NP4 0YH. Telephone 04955-2468 X 260.

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We invite applications from candidates with a minimum qualification of two 'A' levels and good working experience of COBOL. Knowledge of ASSEMBLER, TASKMASTER, FILETAB, IDMS, VSAM, VSAPL and familiarity with VDU use would be advantageous. Starting pay will be up to £8523 depending on age and experience. Career prospects are good and we offer an attractive package of benefits, including an excellent contributory pension scheme.

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SALES BIT

Quality of management – 23

Is complex paperwork necessary?

ONE of the questions used as part of the structured interviewing system by my company for the evaluation of salespeople, asks candidates to identify their greatest weaknesses or dislikes in the context of selling. It is hardly a shock revelation to state that in most cases the response is a declaration of hatred for unnecessary paperwork. Note the key word "unnecessary". It has so much semantic scope. One man's necessary is another's irrelevant.

By and large salespeople do not object to call-plans and call-reports – certainly if they have any real perception of professional selling and effective territory management. They appreciate the benefits to themselves as well as the company. What they do object to, usually by way of dedicated neglect, is paperwork which they believe to be either unnecessary, unused, or both.

Clearly the number of sales documents varies according to the nature of the job and the marketplace. A salesperson selling consumer goods within a retail environment would expect to be producing daily call-plans and call-reports in accordance with the high volume of calls (probably 12 or more per day) as well as a variety of other forms, such as individual orders, returns, complaints, competitive information, and so on. In a business products environment, which might involve as little as two calls per day, normal documentation may be limited to call-plans and call-reports.

Of course, the essential difference between these two extremes is highlighted by a common factor, the number of hours in a day. Whether selling bullseyes or battleships, effective salespeople feel an urgent need to utilise their selling time to the fullest, while, at the same time, satisfying the demand for essential information. Consequently, the person on two calls a day may have the demand and opportunity for producing detailed written reports, whereas someone with the high call rate and lumbered with a mass of sales documentation can be expected to do no more than tick boxes – but more of that later.

So how do you know if you are inflicting too much or too little paperwork upon your sales team? As a general rule-of-thumb, if they keep bellyaching about it you have too much, if no-one ever mentions it you have too little, and if you get the occasional moan (usually from your "low-flyers") you've just about got it right.

There is, of course, a more scientific approach to evaluating sales documentation and I recommend it to you. Most sales planning and recording systems are like Topsy – they just grew and grew! No-one is quite sure how or why it first came into being, no-one can fully explain its current format, no-one really understands what the company does with the information and no-one knows what portion of it is essential as opposed to totally irrelevant.

What is needed in many cases is a complete reassessment of all current sales documentation utilising the objectivity and impartiality of an outsider. Then ask yourself these questions:

■ Does it help the salesperson to do a better job?

■ Is there any reason why this document should not be discarded? i.e. Is the success of the sales and marketing operation in any way dependent on it?

■ If the document cannot be discarded what items within it can be eliminated? i.e. Those that are provided for interest rather than necessity.

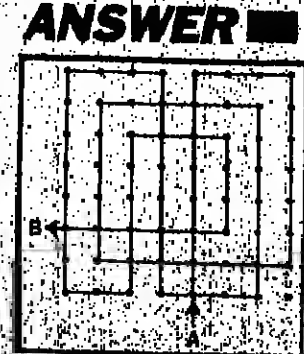
■ Could any of these documents be amalgamated? i.e. let's reduce the volume of paper and duplication.

You will be surprised how much paperwork can be cut out altogether and how much more effectively essential information can be gathered in. This will not only lighten the paperwork load for the sales team and enhance their available selling time, but also reduce the sales manager's workload as well. As we say in Yorkshire, "Enough's plenty!"

Alan Williams

COURSES

■ THE Chelmer-Essex Institute has planned a 10-week series of lectures on data communications, starting on October 4. The course presents an opportunity to become acquainted with the principles of data transmission and to hear the latest trends and developments in the data comms field. Topics include local area networks, Prestel, data security and privacy and the software aspects of a network. Details from the Chelmer Institute of Higher Education, Victoria Road South, Chelmsford, Essex CM1 1LL. Tel: (0245) 354491.

■ A RESIDENTIAL course for senior managers, called Managing in a Changing Technological Environment, is being held by Dun and Bradstreet at Sussex University from November 28 to December 3. The course aims to provide solutions to the problems of working under the pressures of rapid growth. Fee is £700 plus VAT. Details: 01-247 4377.

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